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Doctors of Michigan Your Country Is Calling You

This is no time for ceremony. The responsibility upon us is one of awful moment to this country. We are apt to shut our eyes and indulge in the illusions of hope. We are apt to shut our eyes against a painful truth, and listen to the song of the Siren, till she transforms us into beasts. We are apt to shift responsibilities.

We must not, in this hour, permit delusion to deflect our course of action—MICHIGAN MUST RESPOND WITH SIX HUNDRED DOCTORS NOW.

May future years and posterity be able to point with pride to the manner and promptness of our response.

Doctor, Your Country, Your Flag, Michigan, Your profession calls upon you to do your duty. WILL YOU GO?

Thou, though the world should misdoubt thee,
Be strong as the seas at thy side;
Bind on thine armour about thee
That girds thee with power and pride.
Where Washington stood, where Lincoln stood,
Where fame sees McKinley stand,
Stand thou too, and now too
Take thou thy fate in thy hand.

Original Articles

SOCIAL INSURANCE.*

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Social insurance is a comparatively new project in our own country but it is a problem that presses hard for solution.

It is of German origin, having grown out of their Socialist movement. It is a matter of history that Social Democracy had made serious inroads upon the conservatives and the government so that in 1878 Moltke prophesied that Socialism, even more than France, would be Germany's enemy in the future. In 1871, 100,000 Socialist votes only were recorded and they were represented in the first German Parliament by two members. In 1893 there were 1,786,738 votes and 42 members in Parliament. Had they been proportionately represented they would have had one-fourth of the whole number (397) of seats in the Reichstag.

For several years Bismarck had attempted various repressive measures against the spread of Socialism and the imminence of a revolution and found the cure worse than the disease. He therefore countered and inaugurated what has been called the "Economic Era" of his career. His first act was the transition from free trade to protectionism. Other schemes included insuring the working classes against old age, illness, accidents and indigence, which he succeeded in getting into practical form even before the death of the Old Emperor in 1888. The German sickness insurance system was put into effect as early as 1883. German efficiency has been coincident with these economic schemes.

Social insurance is a comprehensive term. Insurance has been defined as "a provision made by a group of persons, each singly in danger of some loss, the incidence of which cannot be foreseen, that when such loss shall occur to any of them, it shall be distributed over the whole group." Social insurance is therefore intended to protect the individual members of the social organism against some of the menaces to which they are exposed.

Social insurance embraces:

1. Industrial accident insurance.
2. Health insurance, including sickness and disability insurance not otherwise considered.
3. Unemployment insurance.
4. Invalidity and old-age insurance.
5. Provision for widows and orphans.

Although voluntary insurance against sickness, accidents and other emergencies has developed spontaneously here as abroad, social insurance as such exists in the United States in only two forms, namely workmen's compensation acts and widows' pension laws.

On May 30, 1908, the first American compensation act was passed by Congress but was limited to a few employees of the Federal Government. In 1910, the State of New York passed the first general compensation act but it was declared unconstitutional. The first state act to remain valid became effective in New Jersey, July 4, 1911. Now there are compensation acts in force in thirty-three of our states and territories and others are preparing for such legislation.

The Compensation Law of the State of Michigan was approved March 20, 1912 and became effective September 1st of that year. It is prefaced as "An act to promote the welfare of the people of this state, relating to the liability of employers for injuries or death sustained by their employes, providing compensation for the accidental injury to or death of employes and methods for the payment of the same, establishing an industrial accident board, defining its powers, providing for a review of its awards, making an appropriation to carry out the provisions of this act, and restricting the right to compensation or damages in such cases as are provided by this act."

Employers may operate under this act, in which case liability defences, such as negligence of employee or fellow employee are removed, or they may, with the approval of the accident board, elect to pay compensation for injuries and be not subject to the provisions of this act in the removal of defences. This act does not apply to actions to recover damages for personal injuries sustained by household domestic servants and farm laborers.

The term employee is used to include any one in the service of another in the usual course of the trade, business, profession or occupation of his employer and applies also to those in the service of the state, county, city, township, incorporated village, or school district, under any appointment or contract of hire, express or implied, oral or written.

The benefits are medical, and hospital services and medicines for three weeks, compensation for wages lost beginning with the third week, except when incapacity extends to eight

*Read before the Genesee County Medical Society, February 28, 1917.

weeks or beyond, in which cases it dates from the time of injury, payments to dependents in case of death, funeral expenses in case there be no dependents, and compensation for total or partial incapacity, the amount depending upon the usual wage and loss sustained.

An Industrial Accident Board of three members, appointed by the governor, administers the act, but either party may apply to the circuit court for the county in which the accident occurred for a review, the result to have the same effect as any other judgment of that court.

Widows' pension laws are regarded as the least conservative form of Social insurance since they are based upon a pension instead of a contributory insurance principle, and yet they have already been enacted in several states.

Michigan passed such an act, May 7, 1913. It provides that "if the mother of a neglected child or children is unmarried, or is a widow or has been deserted by her huband or is married, has been divorced and is poor and unable to properly care for said child the court may fix an amount of money necessary to enable the mother to properly care for the child or children, the amount not to exceed $3.00 per week for each child."

The act also provides for the medical care of such dependent children in a public institution or hospital if they are ill and the mother is unable to properly care for them through financial difficulty.

It is the desire and intent of the State to give worthy poor children a decent living, and a parental home is deemed superior to an orphanage or other public institution.

With the exception of taxation for the maintenance of Marine Hospital service there is no municipal, State or Federal provision for health insurance.

On July 16, 1798, Congress authorized the taxing of all vessels of the United States Merchant Marine 20 cents per month for every person employed on board, that sum to be deducted from their wages. In 1870 the assessment was ordered doubled. In 1884 a tonnage duty was substituted for the capitation tax. At the present time the beneficiaries of that service include every person connected with the U. S. merchant marine and the aids of navigation. Incidentally the Federal government is committed to health insurance by the taxation of industry.

Although health insurance receives no other governmental support than the aforementioned there are numerous private systems, classified in the following four groups:

1. Trade unions—national and local.

2. Employers' organizations for the benefit of employees—railroad and establishment funds.

3. Mutual societies—fraternal orders, local lodges, general benefit societies and special sick benefit funds.

4. Commercial companies operating for profit or on the mutual principle—industrial insurance companies and casualty companies doing industrial health insurance.

Rubinow, a close student of social insurance, has estimated that 1,130,000 workmen were covered by those health insurance agencies in the year 1907.

Social insurance has been a part of the constructive program of the Socialist Party. It might have made headway faster in America as in Europe had not labor enjoyed higher wages here than there. However, with conditions as they have been, the hazards and misfortunes of industry have been experienced severely enough by many and recognized fully enough by more to result in some legislation.

Industrial liability laws have been on the statute books for a long time but the burden of proof rested on the laborer; there would almost inevitably be a prolonged and wearisome trial with probable appeal and protracted delays, and, even in the event of a verdict for the plaintiff, the lawyers' fees and other court costs would leave but a small recompense for the poor victim, who should have had all the court allowed. Then too there were not infrequent miscarriages of justice. The whole thing was all too unsatisfactory if not intolerable.

Now on the principle that the industry or the employer who receives the profits, should bear or share the cost of injuries, compensation laws make it incumbent only to give due notice of the injury and its relation to his employment.

Compensation laws differ in form, scope, benefits and methods of administration. They have been established throughout Europe and in thirty-three of our states and territories. There remains now to be effected a unification or uniformity of them so that their best features may be incorporated in all. There is a tendency to shorten the waiting period and the adoption of such measures as will prevent or curtail litigation.

Now that the body politic is committed to

compulsory accident insurance it seems natural and certain that only public opinion is needed to secure other related forms of social insurance. Already there are precedents of compulsory sickness insurance in about half of the countries of Europe; voluntary subsidized sickness insurance in at least five other European countries; compulsory old-age insurance in two European countries; old-age pensions and voluntary subsidized state systems of old-age insurance in Great Britain, France, Germany and seven other European countries; unemployment insurance in three European countries and rapidly spreading, and widows' and orphans' pensions are being introduced.

Definite movements have been begun also in this country. For instance the First American Conference on Social Insurance was held in Chicago in June, 1913. Only the Great War prevented an International Congress on Social Insurance in Washington. Congressman Berger introduced a National Old-age Pension bill in the winter of 1914. A Social Insurance Commission was created in California in 1915. Health insurance, old-age pensions and insurance and unemployment insurance are common and frequent topics discussed in State and National Conferences.

At the meeting of the American Medical Association held in Detroit last June, on the recommendation of the Reference Committee on Legislation and Political Action, the House of Delegates requested each constituent state association to establish a committee on social insurance to work in conjunction with the committee on Social insurance of the American Medical Association. This action of the House of Delegates was taken because the House considered that social insurance will probably soon become an important factor in the social and economic status of the practitioner of medicine.

Arguments for health and unemployment insurance are not unlike those for accident insurance.

It has been estimated that from two-thirds to three-fourths of all productive workers in the United States depend upon wages or small salaries for their existence. It is coming to be better realized that the health of the wage working population depends largely upon economic conditions and that measures tending to relieve or prevent disease are needed. The "Human scrap heap of industry" is a thing that must be conserved if industrial efficiency is to be maintained for the state and nation as well as for the individual.

Students and writers on this topic have mentioned the following factors as affecting the health of the wage working population:

1. Occupational disease hazards.
2. Irregularity of employment.
3. Unhealthful conditions of living.
4. The employment of women and especially married women, in industry under modern conditions of work.
5. The economic disadvantage at which a large proportion of wage workers and their families are placed as the result of low wages and insufficient annual income.

Among disease hazards of occupation are harmful substances, such as fumes, vapors, gases, dusts and metals, and harmful conditions, such as heat, moisture, cold, confined air, overcrowding, compressed air, excessive light, strains of muscles, nerves, or special senses, long hours of work, the piece work system and the increasing use of machine methods. Statistics show unmistakable evidences of morbidity and mortality in certain occupations. For instance clerks and salesmen in shops are sick four days per annum; painters and decorators 10.17 days; while cardboard and paper box factory workers show an average annual illness of 15.74 days.

A study of the U. S. census of 1909 shows a death rate of 6.6 per cent. in farmers, planters and overseers of all ages from tuberculosis, in iron and steel workers 16.3 per cent., in tobacco and cigar factory operatives 24.3 per cent., and in printers, lithographers and pressman 29.2 per cent.

Irregularity of employment is significant in this connection because it tends to deteriorate the health and well being of the individual. The strain of work at top speed in busy seasons develops neurasthenic conditions. The slack season means a smaller income and difficulty in keeping up a standard of living. The unemployed is driven to seek a poorer job and he is soon on the toboggan.

It is impossible to more than mention as unhealthful conditions of living, inadequate diet, due to the average small yearly income of the majority of the working population and the increasing high price of food, to unfavorable housing conditions, to congestion in industrial centers, to the effects of overcrowding and lodging house conditions as evidenced by the prevalence of disease, and to the general community environment.

It is significant to compare the average mortality of 27 per cent. in children under 5 years

in the Federal reports, 1909 to 1913 inclusive, as compared with a mortality of 40 per cent. at Johnstown, Pa., of 48 per cent. at Gary, Ind., and 67 per cent. at Monessen, Pa., where unhealthful conditions are known to exist and low wages prevail. Several other reports might be added corroborating this observation. They are pertinent because mortality among children is generally recognized as a very sensitive indicator of the health conditions of a community.

According to the census of 1910 there were about 8,000,000 women engaged in industry. Of that number about 3,000,000 were occupied in stores, mills and factories. In Leipzig during 19 years, 1887-1905, male wage earners lost on an average of 8.55 days each per annum while female wage earners lost 10.30 days each. In 1914, 4,000 female Government employees lost 8.90 days each on account of sickness while 12,000 male Government employees lost on an average only 4.82 days.

It is generally accepted that in the population as a whole the mortality rate in men is greater than in women. Statistics of the insurance funds in Leipzig, Austria and Italy show a higher mortality rate among women than in men under 40 years of age. Comparatively few women remain in industry after that age. It has been shown also that certain industries, as the cotton mills, have a deleterious effect on workers therein. The mortality rate among infants whose mothers are in industry is also much higher than among those whose mothers are not industrially engaged.

Several authorities have come to agree that for the average family of five members an annual income of $800.00 is needed to maintain a healthful standard. According to Scott Nearing "half of the adult males working in the industrial sections of the U. S. receive less than $600.00 per year, and three quarters are paid less than $750.00 annually." I have seen other estimates that are still lower. When it is understood that in many manufacturing and mining industries there is lost on the average from one-fifth to one-third of the full working time during a year from all causes we must be ready to accept the estimates made of average incomes.

Poverty is therefore one of the greatest menaces of the health of the working classes and the partnership of poverty and disease is fixed.

It is impossible in this paper to go deeply into the subject of the responsibility for conditions causing disease, but the directions of the responsibility may at least be hinted at.

There are three sets of conditions having causal relations to disease. They are:

1. Conditions for which the employer and the industry are responsible.
2. Conditions for which the public, through its regulatory and welfare agencies, is responsible.
3. Conditions for which the individual worker and his family are responsible.

In regard to the responsibility of the employer it should be noted that the kind of employment, whether more or less harmful, the conditions of work, the regularity of employment, the standard of wages, the hours of work, and the kind and character of houses owned by the employers, in which the employees live, all have bearings on the question. It is understood of course that for some of those conditions the employers are only partially responsible. That they feel responsible is already acknowledged by the physical examinations to which many corporations do now subject new applicants for employment.

That the public is partially responsible for disease conditions is evidenced by health commissions, sanitary regulations applying to water supply, sewage, plumbing, garbage, purity of foods, sale of drugs, street cleaning and many other matters.

The individual does share a great responsibility in the conditions predisposing to disease. Personal conduct and the standard of living which he and his family maintain are important and yet it must be remembered that they have to do with personal liberty.

In all three sets of conditions affecting the causation of disease there are overlappings of responsibility. It must be admitted that all three parties share in the cause and should share in the cost. Health insurance like accident insurance is worth while, else neither would be voluntarily sought or bought. Undoubtedly many or the majority of wage earners also would secure them if they could but we know they cannot afford them. Insurance costs money. It is necessary to get together on a money basis for as one writer puts it, "dollars and cents is the universal language; every one understands it." Let us talk in that language.

Under the German sickness insurance system all workmen, helpers, journeymen, apprentices, persons engaged in home working industries, and servants are compelled without regard to income to be insured; also all other

persons employed and earning 2,500 marks ($595) a year or less. Any person may voluntarily be insured whose income is 4,000 marks ($952) a year or less.

Insured persons contribute two-thirds; employers contribute one-third. The cost of supervision is borne by the Imperial and State Governments. There is an implied limit of 4½ per cent. of the basic wage. Employers are responsible for contributions of their employees.

Benefits are distinctly not public charities and include medical, cash, maternity and funeral benefits.

In the British system the following are members: All persons 16 years of age and over who are employed, whether in factory, on farm, in domestic service, or in any capacity whatever for which wages are paid, without regard to income. Also any person may become a voluntary member whose income is 160 pounds ($778.64) a year or less, if not over 65 years of age.

Insured persons contribute four-ninths; employers contribute three-ninths; Parliament contributes two-ninths. In some cases the proportions are changed to suit conditions. The cost of administration is borne by the entire fund. In no case is the employer required to pay more than 12 cents per week per employee, nor can the employee be compelled to pay more than 8 cents per week. Contributions are collected by a system of stamps sold by the Government.

The right to benefits begin after twenty-six weekly payments have been made and include medical, cash and maternity benefits.

Sick-benefit funds have been established in the United States, typical ones being Railroad funds, Trade Union Funds and mutual funds.

The U. S. Commission on Industrial Relations have had suggested in the staff report that the Commission recommend a Federal System of sickness insurance in which the membership shall comprise all employees of persons, firms, companies and corporations engaged in interstate commerce, or whose products are transported in interstate commerce, or which may do business in two or more states, the employees of intrastate establishments to be permitted to be insured, if they so elect, under regulations to be prescribed by the commission.

The contributions should probably be in the proportion of 50 per cent. from workers, 40 per cent. from employers, and 10 per cent. from the Government, the last named being for purposes of administration.

Benefits would be available for a limited period in the form of cash and medical benefits during sickness, nonindustrial accidents, and childbearing; death benefits to be of limited size and payable on presentation of proper evidence.

The administration of the insurance funds would be carried out by a national sickness insurance commission to be appointed by the president and confirmed by the senate.

Correlation of the insurance system with the medical profession is absolutely necessary. Contracts with physicians should allow to each a per capita payment for the insured persons under his care, the right of selection of physician to be retained by the insured. For the signing of certificates entitling the insured to benefits and for treating the insured in hospitals the Surgeon General should detail physicians from the Public Health Service, their entire time to be given to these and other duties (consulting with local physicians enforcing Federal laws and regulations, and co-operating with local authorities.)

That plan would in all probability be most acceptable to the medical profession and to the general public because it would continue the established form of "private practice" and also secure freedom of choice of physician. The latter is considered important since it has to do with the proper confidence of patient in the selected healer—a prerequisite to successful treatment.

We in America are loth to believe in unemployment insurance. We scarcely believe there is an unemployment problem. We are wont to hear if not to say "Anyone who really wants a job can get one of some kind." "You can always get work on the farm." "So far as the women are concerned—any girl can get housework."

In spite of our illusions there are some unwelcome facts which we do not know.

To quote from Keller: "The 1900 Federal census shows that 22.3 per cent. of all persons having gainful occupations were not working, either at their particular occupation or at any other, at some time during the year. Over 2,600,000 men and nearly 500,000 women were out of work from four to six months, and over 500,000 men were out of work seven months or over." Says the report:

"It appears that appproximately four persons out of five who claimed gainful occupations were continuously employed throughout the census year, while the fifth person was idle for a period varying from one to twelve months."

Again, "In 1901 the Federal Bureau of Labor made an investigation into the cost of living of 25,440 families of workmen or persons on salaries of not over $1,200 a year, distributed over the U. S. The report shows that about half—49.81 per cent.—of the 24,402 heads of families were idle for part of the year."

It is surprising to learn that of the wage earners of N. Y. State, 983,686 or about one-third are women. As to house work, Horace Greeley's comment in 1846 is still pertinent: "When nine-tenths of the Yankee girls prefer to encounter the stunning din, the imperfect ventilation, monotonous labor, and excessive hours of a cotton factory in preference to doing housework, be sure the latter is not yet what it should be."

Observation and reflection inform us that every change or threatened change of the tariff disturbs industry and throws men out of work. This is an age of inventions, of new machines and new methods. While they all ultimately become blessings for all mankind they are a curse to those who lose their jobs thereby. Each one is in effect the spinning jenny over again. The head of a family ousted from his job is poorly consoled when told that in the long run mankind will benefit by the new machine. How would you men like to have your business or profession quickly lawed out of existence?

Some trades and businesses are seasonal. Witness the building trades, clothing, canning and lumber industries. There are slack seasons in all of them. Who is responsibe for that, the employer or the public? Unemployment is an incident and not an accident of industry.

So also are invalidity and old age. They are to an extent the effect of occupation. In industry men become superannuated before they become old. In some occupations mere age is not a crime nor a great hardship, but in industry where vigor and physical exertion count for so much and profit is the sole standard of service, ethics and respect for old age count for naught. There is the same justice however in pensioning the veterans of industry as the veterans of war, for both classes have spent for their country.

For a conclusion the following paragraph from Mr. London's speech in the House of Representatives appeals to me:

"The worker should not be asked to assume all the burdens, all the risks, all the hazards of modern industry, with its accidents, occupational disease, life-sapping intensity, with its sudden rushes and its long slacks, with its constant fears and anxieties. And in the end the worker will pay for it all. I know that the struggle for bread will continue to be bitter, and that the emancipation of the masses can become a reality only with the abolition of the competitive system of society in which the propertyless are at the mercy of the class which controls the land and the means of production. It is not so much the economic advantage, although that will not be slight, which will accrue to the masses, as the introduction of a principle of ethics into industry, of a moral law into a sphere of life where the law of force rules today. Human society should be something more than a mere aggregation of bipeds, each seeking to devour the other."

HEMORRHAGE DURING THE FIRST HALF OF PREGNANCY.

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The most common and significant forms of hemorrhage that occur during the first semester of pregnancy are those arising from intra-uterine or miscarriage and extra-uterine pregnancy.

A pedunculated intra-uterine polyp may cause marked bleeding with uterine contractions and similate an abortion. An absence of the symptoms and findings of pregnancy and of an amennorrhea should render the differential diagnosis easy.

Attention should be called to the local diseases of the vagina and cervix that may give bleeding during early pregnancy such as erosions, ulcerations, neoplasms and malignancy. The diagnosis in these instances is rapidly cleared upon vaginal examination.

The diagnosis and differential diagnosis between abortion and extra-uterine pregnancy is not at all times easy.

The diagnosis of abortion rests upon a diagnosis of uterine pregnancy. A careful inquiry should be made into the history for the subjective symptoms of pregnancy and a thorough bi-manual examination should be made for the findings of pregnancy.

The diagnosis of pregnancy being made, we then search for the symptoms of abortion. The most constant symptom is bleeding from the uterus.

Threatened abortion is indicated by a bloody discharge, slight drawing pains in the back and a pelvic uneasiness. The blood is generally

an ooze, although it may come with a gush. Its color is usually bright red but in some instances, appears as a brownish discharge. The pain is slight and more of a feeling of weight. An abortion may appear threatened for days or weeks and then upon the subsidence of symptoms, the pregnancy may go on to full term.

If the bleeding continues, becomes profuse and uterine contractions develop, a severe backache appears and the patient has a frequent desire to urinate, the abortion becomes inevitable.

If the product of conception is expelled completely, the uterine contractions cease and the hemorrhage which is usually moderate gradually stops.

In those cases where the fetus escapes, leaving the secundines behind, or where the uterus is not entirely rid of its contents, we have an incomplete abortion. A missed abortion is where the fetus dies and is wholly retained in the uterus.

When there is a gradual diminution of the flow and a cessation of pain, the abortion is usually complete but when the flow continues with occasional exacerbations, the uterus in all probability contains remnants of deciduae. Further evidence of the abortion being incomplete is found upon examination by ascertaining that the uterus is large, flabby, soft, and thicker antero-posteriorly than normal, also the supravaginal portion of the uterus is compressible, which is Hegar's sign.

Incomplete abortion is a dangerous condition because of bad sequelae. The retained deciduae and membranes break down and come away in a profuse lochia with much odor. In many instances, saprophytic bacterio invade the uterus and a sapremia results. This in turn may be properly treated, but frequently an endometritus persists. Then again, sepsis may intervene with its alarming complications.

Some of the placental tissue may be well nourished and a placental polyp develops. These polyp occasionally become the seat of an hydatidiform mole or of a malignant syncytioma.

It is not advisable to examine a patient with a threatened abortion because of the danger of causing more hemorrhage and exciting uterine contractions and should be done only when a diagnosis must be made and then, only with the greatest of care.

Rest in bed is the best treatment and morphine may be given to insure quiet of the patient and uterus. If the hemorrhage ceases, the patient may be allowed to sit up in bed within a few days and may gradually resume her duties after from five to seven days. Upon the first appearance of bleeding, she should again go to bed. During the first days in bed, the bowels should not be disturbed and warning should be given in regard to straining.

Much difference of opinion exists as to the treatment of inevitable abortion. If nature is able to expel the product completely and the bleeding is not too great, she should be allowed to do so without interference. Curettage or tamponade for every case of imminent abortion is unnecessary and unwise.

Our choice of treatment depends entirely upon the amount of hemorrhage and upon the surroundings of our patient.

If the hemorrhage is continuous and profuse, measures must be taken for its control.

The majority of American obstetricians favor the tamponade of the cervix and vagina with strips of gauze. The tampon is allowed to remain in place about twenty-four hours. At the expiration of that time, the tampon is removed, the cervix is found softened and dilated and the ovum is often found on the tampon.

In cases where the ovum is not expelled, removal of the product should be carried out under anesthesia by means of the gloved finger or a large dull curette. In those cases where the cervix is not softened and dilated, a second packing may be done.

The objections to the tamponade are that it is not a certain method of evacuating the uterus, the tampon by capillary action may carry infection into the uterus and sepsis result. The tampon may also cause vesical irritation and catheterization may have to be resorted to.

The writer prefers the more rapid dilatation of the cervix by the fingers or by the Wiley dilator or by vaginal hysterotomy.

During the first months of pregnancy, the cervix may be dilated by the Wiley dilator and the finger. Great care must be exercised in the dilation to avoid rupturing the cervix and lower uterine segment. Dilatation being effected, the fetus and its membranes may be removed piece meal by a placental or ovum forceps. To insure complete removal, the finger or a dull curette may be used to remove the tags of deciduae. Caution must be exercised in the use of the curette not to puncture the softened uterine wall.

When it becomes necessary to evacuate the uterus beyond the first months, vaginal hysterotomy offers an ideal method. It is a certain and a rapid procedure. Infection offers the only contra-indication.

DIAGNOSIS OF EXTRA UTERINE PREGNANCY.

A fertilized ovum may become arrested and develop at any point of its passage from the ovary to the uterus. The most common place for this accident to occur is in the tube, the greatest number occurring in the median or isthmial portion of the tube, the next greatest number in the free or ampullar end, and the fewest in the uterine or interstitial portion.

If the graafian follicle becomes impregnated before leaving the ovary, an ovarian pregnancy results.

Several authentic instances of primary abdominal pregnancy on the folds of the broad ligament and on the omentum are on record. Ovarian and primary abdominal pregnancies are of such rare occurrence that they are only worthy of mention in passing. For practical purposes then, we have only to deal with ectopic pregnancy in the Fallopian tube.

The course of the pregnancy may end in one of the following four ways:

1. By rupture of the tube.
2. By tubal abortion.
3. By death of the embryo before rupture.
4. By development of the fetus to full term without rupture.

The most common termination is by tubal rupture. The over-distended tubal wall weakened by the penetrating chorionic villi breaks and the product of reproduction is thrown off through the opening either into the abdominal cavity, or between the layers of the broad ligament.

In tubal abortion the product of conception is either partially or completely extruded through the fimbriated extremity of the tube into the abdominal cavity. Abortion usually occurs not later than the eighth week of development and practically always in the ampullar variety.

It occasionally happens that the fetus dies, due to a hemorrhage into its membranes and the mass thus formed, which is called a tubal mole, may remain in the tube for a considerable length of time without causing many symptoms. In other cases, the mass becomes infected and a pyo-salpinx results.

Very rarely a tubal pregnancy goes on without rupture to full development and the fetus dies because the diagnosis is usually not made.

An analytical study of the histories of thirty cases of extra-uterine pregnancy entering the department of Dr. Reuben Peterson in the University Hospital at Ann Arbor prior to July, 1914 is made the basis for the following remarks on diagnosis.

The diagnosis of extra-uterine pregnancy may be discussed to advantage under the following three headings:

1. Diagnosis before rupture or abortion.
2. Diagnosis at the time of rupture or abortion.
3. Diagnosis of the development of the fetus during the last half of gestation before rupture occurs.

Unfortunately, a diagnosis of extra-uterine pregnancy is rarely made before rupture of the gravid tube occurs. The majority of patients believe themselves to be pregnant but there are usually no symptoms indicating any pelvic pathology and the necessity of a pelvic examination is not realized.

Our suspicions however, should be aroused when a history of cramp-like pains low in the side is given. Associated with the cramps, there may be a feeling of fullness, weight, or pressure in that location. Our suspicions should be strengthened, if in conjunction with the above symptoms an irregular bloody vaginal discharge or any form of bleeding appears.

In the vast majority of cases a diagnosis of threatened abortion is made and the possibility of extra-uterine pregnancy is lost sight of.

The following history of a University Hospital patient is recalled. A young lady, aged 25, came to the Clinic because of flowing. Her menstruation had always been regular and normal. Her last period commenced on time, but instead of ceasing on the fifth day, it continued and after several weeks of daily flowing, she consulted the Clinic. Associated with the flow, she spoke of experiencing some cramp-like pains in her right side, but she said they were not severe.

Examination of the pelvis revealed the uterus to be of normal size, movable and not tender. In the right broad ligament close to the uterus there was an oblong mass about the size of a small lemon which was tender upon bi-manual examination. A tentative diagnosis of extra-uterine pregnancy was made.

A laparotomy was promptly performed and an unruptured extra-uterine was found in the inter-stitial portion of the tube.

Diagnosis at time of rupture.

The symptoms of tubal rupture are usually ushered in without warning. Very often, the rupture occurs while the patient is in bed or about attending to her household duties, or as occurs in most cases, it follows some exertion

as getting out of bed in the morning, lifting some heavy object, straining at stool, sexual intercourse, or a fall.

The most characteristic and constant symptom of tubal rupture is abdominal pain. The patient is very suddenly seized with sharp, severe pain which is usually so intense that she can not aid herself. The pain is variously described as sharp, shooting, cutting and cramp-like. It is located over the ruptured tube, low down in the affected abdominal quadrant in most all cases, although in some, it was referred to the opposite side.

Others complained of the pain being generally over the entire abdomen, but upon close questioning, it is usually found to be more severe over the site of the lesion.

Two of the patients in the series, described their pain as a sudden, severe backache (in the sacral region). This was nicely explained at the time of operation, by finding the ruptured tube prolapsed posterior to the uterus. In each case, the tube was long and the pregnancy had developed in the ampullar extremity, allowing the tube to prolapse because of its increased weight. The pain accompanying the rupture is usually not mistaken.

Associated with the pain are the symptoms of shock and internal hemorrhage. The patient feels dizzy, nauseated, becomes very restless and thirsty, looks intensely pale and faints. Her lips and finger-nails become cyanosed, She becomes extremely weak, and has a rapid, weak running pulse.

Such is the picture of a sudden rupture with severe hemorrhage. When the rupture occurs more gradually and the bleeding is not so great, the symptoms are proportionally less stormy.

When the rupture occurs between the layers of the broad ligament, a localized hematoma results and the symptoms of shock are out of proportion to the anemia.

It is not the rule for patients to die with the first hemorrhage. The acute symptoms subside after a day or two, and the patient commences to gain.

Many patients suffer repeated paroxysms of pain and repeated hemorrhages occur. If operative interference is not decided upon, death may come with the second or a later attack.

The vast majority of patients will give a history of amennorrhea or of metorrhagia. A careful menstrual history is difficult to obtain in some patients, but there is no doubt that in many cases of extra-uterine pregnancy, the menstruation is regular and normal and the first knowledge of trouble comes with the symptoms of tubal rupture.

The usual history that a patient gives consists in skipping a period and after being over-due for one or more weeks, an irregular bloody discharge appears. The blood which is usually dark and containing no clots may continue for an hour, a day, or for several weeks. All variations of bleeding may be found. With some patients, it will be a mere spotting of blood, while others will flow quite profusely. Profuse bleeding is the exception however, and the amount of blood lost is usually not great. Our observations coincide with those of others that the bleeding is often more profuse when the pregnancy is located in the uterine end of the tube.

The early subjective symptoms of pregnancy are often a great aid to a diagnosis. In the majority of cases, the early symptoms of normal pregnancy such as morning nausea and vomiting, fullness in the breasts, and frequency of urination are present. Colostrum is often present after the sixth week.

Much has been said regarding the expulsion of uterine decidua as a constant finding in extra-uterine pregnancy. The decidua when present comes away either in shreds or as a complete case of the uterine cavity. The size of the decidual cast depends entirely upon the duration of the pregnancy. The cast can be stripped over the finger and is smooth on the inner surface, while the outer surface is rough and shaggy. Hirst obtained a history of expulsion of decidua in less than one-half of his cases and many observers have reported similar statistics.

There is no question but that decidua does not form in all cases of ectopic gestation and the patient, in the majority of cases, is not aware of any shreds or larger pieces of membranes passing. A history of the passage of decidua was given in only 15 per cent. in this short series of cases. A dilatation and curettage was performed in four cases and a microscopical examination of the curettings by Dr. Warthin revealed no decidua. When decidual casts or shreds are recognized in the discharge, or upon microscopical examination, it is a great aid to a diagnosis, but unfortunately, they are found in not more than one-half of the cases.

In most all cases, the diagnosis of extra-uterine gestation can be made or is strongly suggested from a careful history. Upon examination, the breasts usually show the early evidences of pregnancy as seen by their fullness,

the increased pigmentation of the areolae, increased size of Montgomery's Follicles and by finding Colostrum present.

There is often a purplish tinge to the vaginal mucous membrane and the cervix is softened neither are so marked as in intra-uterine pregnancy.

The uterus is enlarged in practically all cases and is softened. The characteristic pelvic finding is the presence of a mass to one or the other side of the uterus. The mass has an elastic, boggy feel. If a broad ligament hematoma has formed, the tumor feels tense and more like a cyst. If the tube has emptied itself at the time of rupture, a mass cannot be so definitely made out, but in those cases, the hemorrhage and shock have been so great, due to the large rupture that the history is unmistakable.

When the tubal rupture occurs into the abdominal cavity, the free blood and clots which form gravitate into the pelvis and a pelvic hematocele is formed. The hematocele gives the posterior cul-de-sac a boggy feel and the posterior wall bulges, due to the weight of the cruor above.

The mass is always tender and many times a bi-manual examination causes the patient so much pain that the mass cannot be well outlined. The entire pelvis is sensitive and any pressure upon the lower abdomen always causes pain.

A record of the patient's temperature and pulse-rate are of much value. There is practically always some temperature ranging from ninety-three to one hundred and three degrees which is due to the absorption of the extravasated blood. When the temperature goes above one hundred and three degrees, it usually indicates an infection. It is of exceedingly great importance from the standpoint of treatment to differentiate between an infected and a noninfected uterine. The knowledge of a leucocyte count is of great value in arriving at a conclusion. There is often an increase of leucocytes when no infection is present. Our highest count was fifteen thousand per cubic millimeter with no infection. Four of the cases were infected and the counts ranged from nineteen thousand to twenty-three thousand per cubic millimeter. A high fever, associated with a high leucocyte count are greatly in favor of suppuration. If the diagnosis or suppuration is in doubt, a puncture of the posterior cul-de-sac with an aspirating needle should always be made before opening the abdomen. If blood or blood and pus are aspirated, the diagnosis is clear.

The diagnosis of an unruptured tubal pregnancy during the latter months of gestation is very difficult, and rarely made. The fetal movements are said to be more vigorous and felt earlier in the pregnancy because of the close proximity of the fetus to the abdominal wall. The characteristic and constant finding is said to be a marked asymmetry of the abdomen. Pressure symptoms upon the rectum and bladder are common. If the uterus can be outlined separately from the pregnancy, a positive diagnosis can be made. The condition should be thought of when a patient goes over her estimated date of confinement some considerable time without having labor pains.

THE TREATMENT OF WOUNDS.

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The advance in the knowledge of the process of wound repair and of the reaction of the tissues to local infections have placed the treatment of wounds on a scientific basis. It seems, however, to be somewhat difficult to overcome the fruits of the teachings of the early antiseptic days in the minds of some physicians and of most all patients. Beyond doubt, these teachings have, in a large measure, been kept alive through the advertising efforts of druggists and manufacturing chemists.

There are, I believe, many things being done today in the care of minor surgical cases simply because they have been done for many years, and because there is a lack of association between the treatment of wounds and the present-day knowledge of wound healing and the reaction to infection. Although it is very important never to crush or manipulate wounds at the time of dressing, yet many inexperienced assistants, it seems, cannot withstand the temptation to feel of and manipulate wounds on every occasion presented, and there can be no question that this tendency results in the infection of many wounds which would otherwise heal by first intention.

In order to consider the treatment of wounds logically they may be divided into the following:

1. After-treatment of clean surgical wounds (including the recent accidental wounds which permit of thorough cleaning).
2. After-treatment of primarily septic wounds.

3. After-treatment of clean wounds becoming infected.
4. Old wounds healing by inactive granulations.

In the case of the first class the treatment is wholly prophylactic. "Don't meddle." If a skin surface is clean, if the instruments, dressings and hands of the operator are clean and the sutures have not been drawn too tightly, the resulting wound will be clean. All that is necessary to do is to obtain careful hemostasis, to approximate the wound edges and to keep out infection by the means of a light covering of sterile gauze.

Under these conditions the only source of danger of infection is the suture material. At the present time the methods of sterilization of suture materials are so satisfactory that there is little or no danger from this source, except from those sutures which pass through the skin. It is well understood that the bacteria in the deeper layers of the skin cannot be removed by scrubbing or by the application of germicides. A few bacteria probably are carried into the subcutaneous tissue by every suture, but in a very large proportion of cases these are destroyed before they begin to multiply. Skin sutures may well be removed in from four to five days, except in cases where they are used as tension sutures. In this length of time agglutination of the edges has occurred, and a bridge of granulation tissue sufficient to seal the wound has been thrown out.

If allowed to remain longer, the sutures cause necrosis of the intervening tissue and in this excellent culture media the bacteria of the skin are very liable to grow. These infections are not frequently more than stitch abscesses, but they serve to increase the amount of scaring. Occasionally the infection follows the course of the suture and a subcutaneous abscess or phlegmon is formed. To obviate these dangers, we are now using, where possible, metal skin clips. They approximate the wound edges accurately, do not go through the epidermis, and give a less noticeable scar.

Clean wounds should not be drained except in those cases where there is a considerable amount of parenchymatous oozing, as in amputation stumps, breast amputations, etc. Such a drain should be removed as early as possible —in twelve to twenty-four hours. The materials to be used will be spoken of later. It is occasionally necessary to pack a clean wound to stop hemorrhage. This should also be removed at the earliest possible moment, for a drained or packed wound becomes, in practically all instances, an infected one, and the longer the drain remains in place the greater the likelihood of infection.

After the removal of sutures or clips the dressings are immediately replaced, or a fresh layer is substituted and the wound is not washed or tampered with in any way. A clean wound should not be sponged off until epidermization is complete, as any washing or manipulation before that time will only tend to rub bacteria into the wound and to disturb the granulations.

2. It is in the care of primarily septic wounds, that one hears more frequently the echoes of the "antiseptic" period, and "antiseptic" still to many minds, is the only means of securing surgical results, while, as a matter of fact, antiseptics have but little place in the practice of modern surgery. Aside from hemostasis, the first step in the care of a fresh accidental wound (which we must regard as being primarily septic), is the cleansing, and this is the most positive of the various steps. Cleansing of any fresh wound of great extent should be thorough and carried out according to a definite routine. If necessary to shave the parts the wound should first be covered with gauze and the surrounding area shaved, shaving away from the wound. Next, this area should be thoroughly scrubbed with soap and water, after which it is sponged with alcohol, the latter being used for its fat absorbing and dehydrating powers, and not as an antiseptic agent. Attention is now turned to the wound itself. Foreign particles are removed, ragged edges are trimmed, crushed tissues into which dirt is ground is cut away, hemostasis is secured and the wound is washed with sterile water. The wound is not scrubbed because of the likelihood of rubbing bacteria into the tissues instead of out. Irrigation with large quantities of water is the next step, and the most important one, since in this way bacteria are washed from the surface and not ground into it. If the wound has been seen within a few hours and is a superficial one, it may now be regarded as a clean wound, and so treated. The majority of these cases, however, show signs of infection when seen, or present so many irregularities that thorough mechanical cleansing is impossible. These wounds are either not sutured at all or are sutured with provision for drainage.

Any proceeding which will disturb the granulations and break up the wall of defence formed by the immigration of leucocytes and the pro-

liferation of fixed tissue cells about the healing wound, tends to hinder the reparative and defensive processes. It is logical to conclude then, that the two important factors in the treatment of wounds are the provision for free drainage and non-interference with a reparative process.

How, then, shall these be best accomplished?

Drainage is any provision for the free escape of pathological fluids. This must be understood to mean prevention of the retention of fluids on a free surface, by crusts or dressings, as well as drainage of an abscess or of a body cavity. Drainage of superficial infections may be accomplished frequently by incision alone, but in deeper foci it is usually necessary to introduce some material into the wound for a time, in order to hold apart the edges. The drainage materials commonly used are gauze, soft rubber tubes and the cigarette drain.

Gauze as a drainage material has many uses, but distinct limitations and disadvantages. In a small wound where it is desired to hold the edges apart for a short time, gauze is satisfactory, but it must be remembered that it will drain serum and not pus or blood. It will drain serum for a few hours by capillarity, but after this time the meshes become filled and it becomes a plug and not a drain.

The disadvantage of using gauze is that, if left in place for more than twelve to eighteen hours, granulations grow into the meshes so that its removal is attended by a great deal of pain to the patient and a tearing of the granulating surfaces, opening up new channels for absorption. It is a rather common practice to drain intraperitoneal infections with gauze. Following the removal of these at the end of twenty-four to forty-eight hours, a sharp rise in the temperature and pulse rate is very frequently seen, and it is likely that a fatal termination occasionally results in cases where this is practiced. New areas of absorption are unquestionably opened, and in a patient, whose resistance is already taxed close to the limit, this may be the deciding factor.

The rubber tube drain allows the escape of any fluid which gets into it, but it is apt to produce pressure necrosis of any tissue with which it comes in contact, giving rise to fecal fistulae, hemorrhage from erosion of a vessel, perforation of a hollow viscus ventral hernia, etc.

The cigarette drain, it would seem, combines the advantages of the gauze and rubber drains, can be removed without pain, granulations are not torn up, it is soft enough to avoid the danger of pressure necrosis, and has the advantage of capillarity.

The prevention of the retention of secretions concerns the problem of dressings. The ideal way of dressing an infected wound of considerable surface area is not to dress it at all. This can be done in large serious wounds which necessitate the patient's remaining in bed. The method is identical in every way with the dry treatment of burns, which has been found so very satisfactory. In this treatment there is absolutely no disturbance of granulations, healing is much more rapid, and less scaring follows than when the wound is dressed. There is, in addition, absence of pain from the removal of dressings.

The reported results obtained by the recent method employed by Dr. Carrel, of the Rockefeller Foundation Institute for Experimental Research, with the Dakin solution of sodium hypochlorite (0.45 to 0.50 per cent.) would seem to indicate that great advancement has been reached in the sterilization of septic wounds with this antiseptic of high germicidal value and of low toxic and irritating quality. The method has not been applied locally, to my knowledge, and its employment requires a rather complicated technic whereby the solution, in a definite chemical concentration, is mechanically delivered to every portion of a surgically prepared wound in a manner insuring its constant contact for a prolonged period (weeks to months).

Patients with minor wounds do not, however, wish to go to bed during the time occupied by the reparative process. These wounds must be dressed to prevent the entrance of additional numbers and varieties of bacteria, and direct trauma to the wound. A loose dressing of dry gauze (sterile) is usually used, and should be changed as frequently as the layers next to the wound become saturated. Hot, wet dressings are frequently of use in infections of the severer types, or where there is a large amount of secretion. This serves two purposes: The moisture prevents rapid drying of the secretion and the sealing of the meshes of the gauze, while the heat promotes an active hyperemia. Boracic crystals are frequently dissolved in the water used, not, however, for their antiseptic action, but because the increase of the concentration of the solution and so prevent maceration of the tissues. To prevent sticking of the gauze to a large granulating surface, it is good practice to apply a thick layer of sterile vaseline or like substance, to prevent the tearing

of granulations during the removal of the gauze. In spite of this, however, there is always some traumatism to a wound at each dressing.

With the possible exception of a dilute solution of Tr. iodine and the Dakin solution, antiseptics that will kill bacteria will also kill the tissue cells or else render them less resistant to the bacteria.

The danger from absorption of an antiseptic from a large wound is great, and bichloride poisoning which was rather common, is occasionally seen at the present time.

Most bacteria which are doing harm are not on the surface of a wound, but below it, and they are not reached by any antiseptic.

3. Whenever infection occurs in a wound which was primarily clean, we must at once remove sutures at point showing redness and apply hot, moist, mildly antiseptic dressings, covered with gutta percha tissue, or oiled silk, and avoid moving and manipulation of the wounded part. If this does not lessen the infection and relieve the symptoms, remove all sutures, "open wide and drain."

4. Occasionally there is seen in a wound an exuberance of unhealthy granulation tissue. The process of repair is here hastened by the cauterization of these granulations with stick silver nitrate, never failing to neutralize, after a few months, with solution of sodium chloride. The wound should not be curetted because the curette does not remove all of the granulations (unhealthy), and breaks through the zone of defence, opening up new channels for absorption.

The treatment of old granulating wounds of poor nutrition, such as chronic leg ulcers, differs in that we desire to stimulate the production of granulation tissue. Infection is a negligible factor here, so long as the surface is not broken. The underlying connective tissue is of a more adult type and bacteria have been overcome. From clinical experience it would seem that certain drugs, such as Tr. of iodine and balsam of Peru, do have a stimulating effect and they are commonly used.

TO SUMMARIZE.

1. The treatment of clean wounds consists in efficient prophylaxis and protection of the wound area.

2. The two all-important factors in the care of infected wounds are free drainage and non-interference with reparative process.

3. Antiseptics, with the probable exception of the Dakin solution, by the Carrel method, are inefficient and are not to be used on account of the resulting injury to the tissue cells.

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HOSPITAL ORGANIZATION AND MANAGEMENT IN SMALL CITIES.*

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The development of hospitals in small cities is one of the results of progress in modern medicine and surgery. It is in harmony with advanced ideas as regards the conservation of lives and is in response to a demand on the part of the laity for better and more successful methods in the prevention, diagnosis and treatment of disease, and on the part of our profession for an opportunity to meet these demands.

Up to 1895, nearly all major surgical operations were performed in hospitals connected with colleges of medicine. This was because the mortality was so great that physicians as a rule perferred to send their patients away rather than bear the responsibility of such mortality and to let the work be done by men who received a salary and were therefore not dependent upon the success of the work for their professional reputation.

When only one out of six or seven serious surgical operations resulted in the recovery of the patient, as one of our prominent surgeons told me was the case when he was an assistant to a professor of surgery in the eighties, the results were rather discouraging. But improvements in surgery took place, it became easier to obtain trained nurses and certain disadvantages inherent to surgery in hospitals used for teaching purposes became apparent, such as the presence of students, frequency of sepsis due to the crowding of such institutions, publicity of the work, etc., causing many to do or have their surgery done in private homes.

But later, disadvantages inherent to this method were recognized and physicians turned to private and smaller public or endowed hospitals for a solution of the difficult problem of successful surgery. Here patients could be nearer home, be in quieter and more familiar

*Read before the Montcalm County Medical Society.

surroundings, receive the care of their own physicians, etc.

This problem of local hospitals is now being worked out in many places and each city presents its own particular difficulties, the successful solution of which is necessary to the acquisition of hospital facilities.

The great advancement which has been made in the science of preventive medicine leads us to hope that in the near future nearly all preventable sickness will be prevented and we also hope and believe that the time will come when all unpreventable sickness, if at all serious, will be treated in well equipped hospitals, where all scientific and therefore most successful methods can be carried out in a satisfactory manner. This will mean the greatest good to the community at large and will be of benefit to our profession as well.

One of the first questions that presents itself in relation to a hospital is this: What is a hospital for? Is it merely a convenient place to care for the sick or is it a place where disease can be scientifically investigated, diagnosed and therefore accurately and successfully treated?

This question must be answered by those interested in any proposed hospital, for just as this is decided so will the institution be. If the answer should be that it is merely a place where the sick can be conveniently cared for, experience has shown that such an institution soon gets into disrepute with the laity and about the only way to get patients into it is by the exercise of physical force. This condition of affairs can easily be produced as has been shown in many cases and this means failure for the hospitals where this plan is followed.

There are practically about four methods in vogue for the establishment and maintenance of hospitals in small cities.

First. The hospital owned and operated by some religious body.

Second. The endowed hospital, established through the gift or bequest of a sum of money to be used for hospital purposes, a part of such sum to be used for building and a part for endowment.

Third. The private hospital, which may be owned and run by one or two doctors or nurses and run for profit, catering to the physicians of the vicinity or which may be established by two or more physicians and run on the non-profit paying plan, in order to furnish a suitable place for the care and treatment of their patients.

Fourth. The public or the semipublic hospital, established partly by the gift of charitable citizens and partly by the municipality.

All of these methods have been tried and found useful. The second is by far the easiest for any community so fortunate as to be blessed with citizens wealthy enough and willing to found a hospital. Still a great many communities are not so fortunate and find it necessary to adopt some of the other plans. But whatever plan is followed, after the hospital has been secured many problems remain to be worked out in order that the hospital may prove a success and the greatest benefit be derived from its existence.

It may be taken for granted that no hospital of any kind or of any plan can become a profit paying institution. There are but few exceptions to this rule and it is right that this should be true. Any attempt to exploit for profit the care of the sick in hospitals should be condemned.

Nevertheless, these are very profitable institutions.

First. To the public, as they can care for the sick more economically and efficiently than can be done in private homes and with a lessened per cent. of mortality.

Second. To the physicians and surgeons of a community, because the hospital furnishes them not only a convenient place to care for their patients, but if it is well equipped, enables them to undertake more difficult and important examinations, treatments and operations than would otherwise be possible.

Third. To the patients who benefit by better care and better chances of recovery.

Fourth. They give employment at remunerative wages to many nurses and in some cases furnish a place where those desiring to become nurses can get the necessary training. But as has been already stated, the hospital can never become a paying proposition from the standpoint of dollars and cents. Therefore the one established as a private institution by doctors or nurses to cater to the patients of other doctors, and from which the owners expect a profit, is usually poorly equipped, poorly managed or managed in a mercenary spirit with no attempt at scientific excellence. Such an institution is of little benefit to a community, but the one established by two or more physicians simply as a place where they can treat their patients in a more scientific and therefore successful manner than can be done in private homes and with no expectations of profit from the hospital direct, is certainly a valuable in-

stitution. Such a place, if well equipped and well managed, gives an opportunity for first class work and when controlled by those interested in its success as well as trained in such work, should get the best possible results both in the cure of diseases and in a lessened death rate in all diseases.

Even more valuable in many cases are the endowed hospitals, for these are able by reason of freedom from financial anxiety, to standardize their work at such a high level that only the best trained men will find themselves capable of working therein and their work will naturally reflect the level attained.

The fourth plan, that of the public hospital, is the one most often adopted because it is the one most feasible for many places. This plan while most often useful, or the easiest method of acquiring a hospital is beset with many difficulties and has many problems, the solution of which is necessary if the physicians and people generally are to realize material benefit from the presence of such an institution.

Its success will depend largely upon the attitude taken toward it by the surrounding physicians.

There are two things which should be thoroughly realized by the physicians of a community if the hospital is to be successful.

First. The necessity that the work done in the institution be of a high class, as bad results, whether due to error in treatment, or even if unavoidable, show up more prominently there than in private practice. One bad result in town, another five miles north and another four miles northeast, in the practice of one physician, will excite very little comment as the friends and neighbors of one patient may never hear of the others. But you put the results in three rooms of the same hospital and they will show up all right and in a manner to cause ten times the comment and ten times the amount of adverse criticism of the physician and of the hospital as well, as would occur in private practice.

Second. The absolute necessity of team work in relation to the hospital. Each must give of his best and at the same time encourage his brother physician to do the same. Take the Mayos for example. One of the most important lessons to be learned from their success is the value of team work and co-operation. The Drs. Mayo and their forty co-workers, together in team work do a practice of up in the millions per year. If you take each of the physicians and put him or her in a separate office in Rochester, Minn., and the surrounding towns, letting each work by himself and in competition with the others, how much practice would they do? We will say they average $7,000 per year, which would be a liberal estimate. This would amount to a sum far below their earning ability when working together.

As I understand, your hospital belongs to the fourth class, or municipal and privately supported and your problem is one of many. It is necessary that you so arrange and manage it that it will prove a success, as otherwise it will prove a source of disappointment to all who are interested.

The St. Johns Hospital belongs at present to the class of privately owned hospitals, organized on the non-profit paying plan and we feel great satisfaction with the success so far achieved. The beds are kept well filled, with patients constantly on the waiting list. We are planning to enlarge in the near future. Our problem is different from yours, yet much of the experience gained in our work will apply equally well to yours.

Any hospital should have a good set of sterilizers, a well equipped operating room, by all means a laboratory, and if it can possibly be obtained, a first class X-ray apparatus should be installed.

A good system of call bells or lights is necessary. The best is probably the three light system; although a more simple device might do, this is an excellent one and will do much to promote good service.

It is necessary to decide whether the hospital will be run with or without a staff. Both methods have been tried and the method of running without a staff has many times led to failure unless the institution was under the control of the city exclusively or had sufficient endowment to make it independent, and even then the result has not always been desirable. If those having the matter in charge have at heart the true interest of the hospital and desire the greatest measure of success for the institution and therefore for themselves, they will see to it that a staff is organized at the beginning. I know of several instances in which an effort has been made to run without a staff and now the buildings stand empty because of the fact.

By having a staff for this kind of an institution, I do not mean to have a closed hospital or one where all the work is done by the staff, but rather to follow the open plan so that any

physician can bring his patients to the hospital and treat them there.

A very excellent plan is to have the hospital work divided into departments and a well trained and up-to-date man put at the head of each department. Each must be made responsible for the work of his department and should be allowed to make the rules and regulations governing such department, subject to the approval of the whole staff and of the board of directors.

Then for instance, when a physician wished to bring in a typhoid patient, the only thing the head of the department would have to do with the case would be to see by the records that the rules and regulations were lived up to as regards the care and treatment of the patient. Of course there should be rules that every such case should have a complete blood and urinary examination every three or four days and a Wedal, say at the end of five days, with a complete physical examination every second day. Possibly the calcoric value of the food intake should be worked out daily in order to insure to each patient the surplus calories of food necessary that nature may manufacture the anti-toxins needed to effect a cure.

The record of this work should be made out daily on the regular record sheets by the physician and the nurse in charge and once or twice weekly submitted to the inspection of the chief of the department. He would, after seeing that the rules were complied with, place upon the record his signature as a sign of approval.

If a surgeon desired to operate upon an abdominal case and the rules required a complete blood, urinary, physical and X-ray examination, the record must in each case, be submitted to the chief of the surgical department and be approved by him before the operation can proceed.

In case a training school should be organized, the chief of each department should be expected to arrange the necessary lectures for his department.

This work should all be done without pay and purely for the good of the hospital. Possibly charity cases brought in could be placed in the professional care of the chief of the department to which they belong. In this case, each chief of a department would have nothing to do with the treatment and care of the patients of other physicians except to see that the rules of his department were lived up to at all times. He need not even see such patients. He should have no privilege of withholding his approval if the rules were adhered to, and in case of dispute the question could be referred to the entire staff for the board of directors for final decision.

Each hospital needs a superintendent, an assistant superintendent, one or more nurses on general duty and a cook and janitor, which will complete the necessary force.

I believe it will be well, in the process of organization, to adopt a system of rules, few and simple, but sufficiently clear to define the duties of each and every employee of the hospital. If this is not done confusion and friction is the result.

A definite system of records should also be adopted for the various departments and every one working therein should be expected to record every examination made and every treatment used. Records of anesthesia should also be made.

A careful system of records will not only be valuable for future reference but will very much conduce to better and more accurate work. All this will tend to prevent bad or careless results and by holding every one to a high standard, good results will be assured. Many of the pitfalls of failure will thus be avoided and after a few years, instead of becoming as so many such an undertaking has become, a reproach to the community, yours will stand as a monument to the wise forethought of its promoters and be recognized by every one as a blessing and an ever present help in time of need.

In fact the question is simply this. In any community establishing a hospital, the physicians of that community must deliberately decide whether they will, by working in a spirit of co-operation establish the institution on a high scientific plane and bring themselves up to that plane or establish it on a lower plane and in the end make it a failure, at least from the standpoint of results obtained.

This question must be decided and it is better to decide it in the beginning than afterward.

Gentlemen, your desire to establish a hospital in your city shows that you are progressive and broadminded, for this work is along the line of modern progress in our profession and it is my sincere belief that you will be able to establish your hospital in such a manner as will reflect credit upon yourselves, insure success to the institution and therefore increased prosperity to your profession in the beautiful city of Greenville.

TWO CASES OF VAGINAL CESAREAN SECTION FOR ECLAMPSIA.

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CASE 1. Mrs. C. L., Prov. Hospital No. 410, primipara, housewife aged 32 years. Family and personal history negative. Entered hospital at 11:30 a. m., Jan. 28, 1917, in state of eclamptic coma with frequent convulsions. She had last period normally July 4, 1916, and suffered from toxemic, vomiting the following three months. Urine was normal through pregnancy to Jan. 26, the date of last examination. On January 27 patient suffered from headache in the morning. This became more intense during the day. First convulsion at 2 a. m., January 28. From this time convulsions repeated from fifteen to twenty minutes. Coma commenced about 4 a. m. Seen by Dr. H. Maus at 11 a. m., was given morph. gr. ½, scopolamine gr. 1/100 by hypo, and sent to hospital. Measurements interspinous 23 cm, intercrestal 26 cm, intertrochanteric 31 cm, ext conjugate 16½ cm, true conjugate 9 cm. Fetus was in right occipito anterior position with the head unengaged. Blood pressure 204-140. Convulsions every four to five minutes. At 12 noon vaginal cesarean section performed by Bumm method, single anterior incision 10 cm long in cervix, which was intact and hard. The head was pushed aside externally and an easy bipolar podalic version performed, the right hand bringing down the left foot. Easy extraction of 1900 gm, 40 cm fetus followed. This was in a state of pallid asphyxia and expired in thirty minutes. Placenta removed manually; excessively small amount of hemorrhage, no convulsions after operation. Coma continuel until morning of January 31st. Patient made normal recovery. February 10 uterus under symphysis; vaginal examination uterus in almost complete involution, anteflexed, normal position, movable; line of suture healed: os ½ cm open, adnexa normal. Left hospital February 10, 1917, normal except for urine which showed hyaline and granular casts and serum albumin. B. P. 140-95.

CASE 2. Mrs. E. G. Prov. Hospital No. 717 was sent to Hospital suffering from extreme headaches, February 18, 1917. Mother died of puerperal sepsis at 35 years. Patient, a primipara 27 years of age, had last period normally June 21, 1916. Had slight hyperemesis first few weeks of pregnancy. Skin was slightly jaundiced. Abdomen showed distention of thirty-four weeks pregnancy, fetus laying in right occipito anterior position with fetal heart sounds 140, rather weak. Measurements interspinous 26 cm, intercrestal 29 cm, intertrochanteric 31 cm, external conjugate 18½ cm, diagonial conjugate 12 cm. Blood pressure 170-125. As patient was being examined at 12:30 p. m. first convulsion began. Convulsions succeeded at half hour intervals with patient unconscious between. While waiting for the husband a high enema was given, also morph. gr. ½ per hypo. Urine per catheter showed casts, hyaline and granular, great amount of serum albumin. At 4 p. m. brought to operation room; cervix intact and fairly soft, head above inlet. Vaginal cesarotomy after the method of Bumm. Vertical incision about 10 cm long, forceps delivery at inlet. After delivery uterus rather soft. Upon gentle massage, placenta dropped out, following this a rather severe hemorrhage. Pitutrin 2 cc. and ergotinal 4 cc. were given by hypo. After patient returned to bed 20 ozs. of 5 per cent glucose solution given by Murphy drop. B. P. 100-65. Patient conscious at 7 p. m. Made uneventful recovery; discharged March 4, 1917. March 2 examination showed uterus in good involution anteflexed, freely movable, incision healed, adnexa normal, B. P. 105-70. Urine slight amount of albumin. Fetus lived about 3½ hours.

Case 1 shows clearly the fallacy of reliance upon ordinary urinary tests to indicate the presence of toxemia of pregnancy. Although there were casts and albumin at the time of seizure, these were absent two days before. The ordinary routine urinalysis is essential in prenatal case, but it does not always give warning of a dangerous state of toxemia.

While a single reading at the time of the convulsions without preliminary readings is of little value, it is worthy of note that these were of the usual high pressure type. The loss of an excessive quantity of blood in the second case brought the pressure down at an alarming rate. This same accident cleared the system of sufficient toxins to clear the mind of the woman in a few hours. The first case which had a subnormal flow of blood post partum showed a slower decrease of blood pressure. Also the mind did not clear until the third day. A greater blood letting would probably have cleared her mind more rapidly through lessening the circulating toxins, also by lessening the congestion of the brain by lowering the pressure.

Too often the subjective symptoms of toxemia of late pregnancy are neglected by attendants. There is scarcely a case which goes to eclampsia which does not give preliminary subjective signs. Among the ordinary signs are somnolence, insomnia, epigastic distress, mental depression, dizziness, nausea; but headache is the most common and constant. Such complaints properly considered should lead to further investigation which would detect the true state of the patient.

These cases are typical ones adaptive to this operative procedure. Both developed eclampsia and suffered from coma weeks before term. Neither had begun labor, both had intact cervices with presenting part unengaged. Blood pressure in each was alarmingly high.

The lives of the feti were not to be considered because of prematurity and the degree of toxemia present, so that any procedure would dismiss their rights in an effort to save the mother.

608 Mt. Elliott Ave.

TRANSACTIONS

OF THE

Clinical Society of the University of Michigan

Stated Meeting, February 7, 1917

The President, CARL D. CAMP, M.D., in the Chair
Reported by REUBEN PETERSON, M.D., Secretary

TREATMENT OF CHRONIC NEPHRITIS.

NELLIS B. FOSTER, M.D.

(From the Clinic of Internal Medicine, University Hospital, Ann Arbor, Michigan.)

The principles underlying the treatment and management of chronic disease are not those which make a strong appeal with acute disorders. There is no dramatic element in a stubborn long-drawn-out battle with an adversary that invariably claims the field. But that the inevitable can be postponed, in some instances for years, by scientific and persistent care, is no little thing and that sort of fight has its attraction for not a few of us.

It is only by chance now and then that we have opportunities of studying the early stages of chronic progressive diseases such as is exemplified by chronic nephritis. At these times there are no symptoms and perhaps no evidences of disease except those disclosed by functional tests. The life insurance companies discover some of these cases and the very pertinent question then arises: what can we do to check the progress of the malady? This brings up the question of etiology and we know so very little about it, but in my opinion this type of case should always be investigated for some kind of infection. It is well recognized, yet often forgotten, that syphilis may give no intimation other than renal disease and I am convinced that by the discovery of a latent syphilitic infection followed by treatment for it some of my patients have been rescued from irreparable, frank nephritis. A second source of injury we are not likely to forget during the present furor over focal infection. Acute nephritis is not a rare sequal to follicular tonsillitis and no strain on the credulity is required to believe that chronic infections of the tonsils or elsewhere may give origin to renal diseases.

These foci, when discovered, should be treated radically, as much so when associated with nephritis as with arthritis. I can not attempt a complete résumé of infections but I have sketched the principle we must follow with these incipient cases. One must not forget metallic poisons and the chemicals so largely employed in the arts; nor the fact that renal calculus is more common than our figures show and that a stone in one kidney induces degenerative changes in both.

The early cases of nephritis are, however, but exceptions, the vast majority are well advanced into the stage of subjective symptoms of disease before a physician is consulted. Now the manifestations of nephritis are diverse enough so that difficulty in recognizing some of the pictures is common.[1] For example, a patient presents symptoms and signs referable to cardiac incompetency—dyspnea, edema, and a mitral systolic murmur. The blood pressure may be within normal bounds and if there be albumin and casts in the urine it is as well explained by passive congestion as by nephritis. These cases are treated for the cardiac disorder, quite properly perhaps, but unless one is vigilant and notes changes frequently an important fact will escape; namely, as the patient improves and the symptoms of cardiac disorder disappear, the blood pressure gradually rises until it often happens, when the attack is over, we find a blood pressure of 120-130 diastolic and 180 systolic. What has happened is very simple to explain. Chronic nephritis of one type induces a high blood pressure, to meet which the heart hypertrophies. Then a time comes when some myocardial change occurs and the heart dilates, resulting in the symptoms enumerated and with the dilatation, of course, the blood

1. Many cases of cardio-renal disease are sent to this clinic for goiter operation. The symptoms are misinterpreted as due to simple goiter.

pressure falls to the figure which deceived us in the beginning. These cases are very common. An increased blood pressure, systolic or diastolic, or both, usually means kidney disease. The pure arteriosclerotic type is exceptional and insufficiently demonstrated.

This brings me to certain matters which I must discuss before I can explain rational therapeutic procedures in nephritis.

In a period not yet remote the study of a case of nephritis consisted in an endeavor to arrive at an anatomic diagnosis. Was a given case one of tubular nephritis, glomerulonephritis, or any of the half dozen types of pathologic change described by the morbid anatomist? Now these anatomic changes have a significance to those who are studying structural change. They are useful and necessary, but for us clinicians a structural change, diagnosed ever so correctly, is absolutely useless until we can translate its significance into terms of function. And when one has studied many kidneys under the microscope it becomes increasingly evident that in different areas of the same kidney the type of lesion varies; here the glomerules chiefly have suffered, there the tubules; and with experience one learns that all types of lesion may be found in the same kidney, if one but hunts long enough. And then too, who can say that because a cell looks normal, its function was normal. It is not rare to find at autopsy, where death was due to some disease other than nephritis, kidneys damaged and atrophied to a degree seemingly incompatible with life. Is it not clear then that what the clinician needs to know with respect to any case is not a picture of the kidney structure, but rather a knowledge of the kidney function—in what respect and to what degree is the kidney function below normal? Investigations bearing on this field are being pursued in many hospitals and laboratories at present. The normal function of the kidney is to excrete certain nitrogenous waste products, salts and water, hence defects in function mean defective excretion of some one or all of these substances. And with any individual case it is requisite for us to know with which substance the kidney has difficulty and how serious the difficulty is before we are in a position to begin treatment. At present we recognize three types of defective function in renal disease.

(1) Nephritis with salt retention.

(2) Nephritis with nitrogen retention.

(3) Nephritis of a mixed type, i. e., both salt and nitrogen retention.

This classification is purely physiologic and gives no reference to the structural anatomy. That may be added, however, if one becomes convinced as to the nature of the anatomic change present. It is evident then, I think, that if we can recognize these types of perverted function which I have enumerated we are in a position to institute a protective therapeutic regimen. Conversely it is absurd and probably injurious to exact measures not required, as, for example, restricting a nephritic patient to minimal amounts of salt when there is no defect in salt metabolism. Hence we must know just exactly what we are doing if good results are expected. In the hospital we have formed the habit, begun as an investigation, of testing out each patient with respect to the nitrogen, salt, and water metabolism, much in the way a diabetic is studied for carbohydrate tolerance. The degree of study is possible only in well organized clinics and I think that we now have sufficient information as to certain essential facts so that we can use more direct methods to learn what is requisite in a case study. With each case of nephritis we need to know, as I have pointed out: is there defective metabolism of salt, of nitrogen, of water? In the first place if there be edema and if the heart is beyond suspicion one is justified in concluding that salt and water are handled in an abnormal manner. If there is also a high blood pressure the probability is that nitrogen waste also is being retained in blood and tissues. When there is no edema, a high blood pressure and a low phenol-sulphone-phthalein excretion indicate nitrogen retention. If means are at hand the nitrogen retention can be demonstrated by determining the urea or nonprotein nitrogen of the blood and with edema probably a single twenty-four hour collection of urine would show a sodium chloroid content so low that it would be confirmatory. In the course of rather elaborate studies both in the wards and laboratory I have had charts kept of the results of the various examinations and correlated these findings with the metabolism studies of the same patients. A considerable number of cases have been so studied and these rather significant points seem to result. A schematic arrangement facilitates clarity.

Edema + ***retinal edema*** indicates *chlorid* retention.

Edema + ***low phthalein index*** indicates *chlorid* retention.

Elevated blood pressure + ***retinitis*** indicates *nitrogen* retention.

Elevated blood pressure + low phthalein index indicates *nitrogen* retention.

Elevated blood pressure + edema indicates *chlorid* and (probably) *nitrogen* retention.

Elevated blood pressure + edema + low phthalein index indicates *chlorid* and *nitrogen* retention.

These are frankly only probabilities and there are exceptions, and with our present knowledge I know of no way to attain definite facts except by use of laboratory methods. Defective excretion of sodium chlorid is easily demonstrated if a diet of known salt content be given and the urinary chlorid estimated. Nitrogen retention can be shown readily by a quantitative analysis of the blood for either urea, or total nonprotein nitrogen; or possible, for creatinine alone. These methods require, however, the laboratory and the services of a competent chemist.

After having found out what type of physiologic defect a given case represents the principle of treatment is to protect that weakened function. The same principle we employ with cardiac decompensation; namely to lighten so far as possible the work of the heart by imposing complete rest. Let me take up first nephritis with chlorid retention and for clarity and definiteness cite one case as an example. Case 77 was a man 32 years of age, who complained of a gradual loss of strength for a year; some swelling of his ankles in the beginning became more pronounced until he could not lace his shoes; for a month he had dyspnea on any exertion. His physician examined him and diagnosed nephritis and advised him to submit to a period of study. The examination showed slight general edema, most notable in the legs; no cardiac hypertrophy nor evidence of valvular defect; the blood pressure averaged 126 systolic and 70 diastolic. The retinae appeared normal. A twenty-four hour specimen of urine measured 740 c.c.; contained much albumin and many casts. On a diet containing 8 grams of salt his average excretion for three days was 6.1+ grams (18.5 grams in three days), thereby retaining 5.5 grams of salt in the period ($24 - 18.5 = 5.5$). A phthalein estimation showed 52 per cent. recovered. Blood analyses gave normal figures for the nonprotein nitrogen. In brief, the case was one of the chlorid retention type without notable disturbance in nitrogen excretion. By analogy with cardiac disease the rational procedure is to limit the amount of sodium chlorid ingested to within the amount the kidneys can excrete. In the case cited the salt taken should be not over five grams. In practice outside an institution it is easier to have for these cases a set diet which contains a minimal amount of salt. Such a diet may contain fruit, milk, cereals, sweet butter, and unsalted bread.

Breakfast:

Apple, baked or stewed
A cooked cereal (no salt added) with cream and sugar
Unsalted bread toasted, sweet butter
Caffein free coffee with cream.

Dinner:

Cream vegetable soup
Two eggs as omelette with tomato or onion
Unsalted bread and butter
Rice or tapioca pudding.

Supper:

Cereal with milk
Unsalted bread and butter
Stewed fruit.

A diet of this kind puts the demands on the kidney to excrete salt at the lowest possible level. With this method many patients show prompt improvement by diuresis and a rapid subsidence of edema. With others the improvement is slow and with some there is no visible betterment at all. Even when the edema clears up promptly and complete the persistent marked albuminuria is evidence that we are not treating the disease but only one of the consequences of the disease. But we have at least removed an overload and thereby given opportunity for diseased cells to become normal and tissue to regenerate. Nephritis with chlorid retention is apt to be a protracted and tedious disease. The malady has the ear-marks of a chronic intoxication and many at present are disposed to hold some type of infection responsible. To me it seems clear that the kidneys are not alone involved in the disorder but it happens that disturbed function with these organs more quickly induces visible signs.

When the immediate urgent symptoms have been removed or their intensity has diminished all of the cases of this type must be most carefully examined for evidences of infections. Foci are not always found, and sometimes when they are found and eradicated improvement does not ensue; yet occasionally such excellent results are secured that the chance can not be neglected. In brief, these cases with symptoms must be studied in the same way that one studies cases of simple albuminuria when no symptoms, such as edema, is present. The im-

portant consideration for the patient is the discovery of the cause of the trouble.

Before leaving this type of nephritis I wish to mention some methods of treatment that have gained an unearned favorable repute and first among these is perhaps the hot pack or sweat bath. In the first place we now know from careful measurement and analysis of sweat that the salt lost by nephritics in this way is very slight in amount. It is also questionable to say the least, whether it is advisable to abstract the water from edematous tissues and leave salt and other substances in them in the resulting higher concentration. And finally it has been recognized for a long time that free diaphoresis will with some cases induce uremic symptoms. With these considerations in mind the hot pack does not seem rational. Practically I have watched its use for years past and I have very seldom seen any improvement in a patient's condition except with cases where the heat induced diuresis. A hot compress over the kidney region will then produce the same result and is devoid of danger and does not subject the patient to a weakening and exhausting procedure.

The question of a diuretic arises at some time with every protracted case of edema. With nephritis diuretics that act on the kidney should be avoided. Their effect is due to irritation and the renal tissue is already sufficiently irritated. When the edema is due to cardiac disease then at times diuretics are of some value, perhaps, and may possibly increase the effect of digitalis; but with pure renal disease their use is not rational and I believe not practical.

Chronic nephritis of the type associated with nitrogen retention is one of the common diseases. Directly or indirectly this disease ranks among the chief causes of death in this country as shown by the mortality statistics. A very large percentage of all cases of high blood pressure are essentially cases of renal disease. Although some cases of hypertension do not develop characteristic signs of nephritis and a very few of these cases do not show nephritis at autopsy, yet this is exceptional and the fact remains that unexplained hypertension is probably nephritic in origin. An explanation of the physiology of this phenomenon is yet wanting. But because it is so frequently associated with nephritis, often the first notable sign, and is of itself directly responsible for several morbid states it requires some special comment in this place. The burden thrown upon the heart by a blood pressure persisting from twenty to forty millimeters of mercury above the normal is quite obvious, and when one considers the tendency to myocardial degeneration in association with renal and arterial disease, cardiac dilatation and its train of symptoms is explained. Likewise cerebral hemorrhage needs no comment. Obviously, then, hypertension in itself may be no insignificant menace. The only method of control which has met with any degree of success in my experience involves a complete revision and rearrangement of the life and habits of the patient. Which factor is of most importance I do not know. A marked reduction of diet is indispensible; so is a curtailment of business activity. Some adjustment of the rigor of exactions may be made for the needs of the patient but as a rule the dietary should be the lowest compatible with health maintenance, and it is remarkable how little food is required by adults past the prime of life, and how easily the patient fits himself to the restrictions provided the physician sees to it that all foods that especially entice the appetite are crossed off the list, two small meals a day, a very low protein intake—forty grams at most. The next consideration is a readjustment in fields of activity so that responsibilities and worries are unloaded. This is most important with men who are actively engaged in large affairs. And finally a surplus of rest in bed, by which is meant considerable over the conventional eight hours out of the twenty-four. This is a considerable requirement to demand of a patient but the remedy is for a desperate disorder and the sense of well being attained is ample recompense. With some cases the fall in blood pressure and coincident improvement in health following these restrictions is remarkable. With advanced cases a benefit can usually be secured although a normal blood pressure is seldom attained.

It is perhaps well to explain what is meant by nitrogen retention. Essentially it is simply failure of excretion of nitrogen. If a normal adult take ten grams of nitrogen daily in his food he will be found to excrete the same amount—that is to say he is in nitrogenous equilibrium. Every healthy adult tends to be in this state. During the period of growth less nitrogen is excreted than is ingested, the difference being retained for the construction of new body tissue; the same is true during convalescence after wasting disease such as typhoid. But with these two exceptions—adolescence and convalescence—the retention of nitrogen indicates kidney disease and the retained nitrogen

can be detected as an excess of urea and other urinary bodies in the blood and tissues as Bright pointed out. The failure of excretion of the products of metabolism is attended by symptoms and it would be in accord with general biologic laws if it were proved that excretory substances are injurious to the organic tissues.

The first principle in the treatment of this type of nephritis is evident from the foregoing considerations. The amount of nitrogen waste to be excreted must be reduced and the only way to secure that end is reduction of the protein food taken in. A low protein diet that we have used consists of a daily allowance of one pint of milk, four slices of bread, two potatoes, rice, green vegetables, butter, fruit and sugar. This diet taken in ordinary quantities will approximate forty-five grams of protein daily (seven to eight grams of nitrogen). With very sick patients it is too much and should be reduced.

The second principle in treatment depends upon the "failure or concentration" so called. The low specific gravity of the urine in typical cases of advanced nephritis is familiar. An earlier and more general manifestation relates to the nitrogen percentage. Whereas with normal persons the kidney is able to excrete urine containing 2 per cent. of nitrogen with ease, with nephritics of this type the urine may not contain over 0.5 per cent. of nitrogen. Now what does this mean? The average normal person excretes daily about 1200 c. c. containing 1.5 per cent. of nitrogen or eighteen grams. A nephritic taking the same food can not excrete a urine of higher concentration than 0.6 per cent., let us say. Then if his urine volume is 2000 c. c. he excretes but twelve grams of nitrogen—a nitrogen retention of six grams. It is evident that he must put out 3000 c. c. of urine daily if he is to get rid of all his nitrogen waste.

1200 c. c. x 1.5% = 18 g.
2000 c. c. x 0.6% = 12 g. (6 g. + bal.)
3000 c. c. x 0.6% = 18 g.

In a series of metabolic experiments it was demonstrated in my clinical laboratory, that retention could be produced at will with nephritics by changing the volume of water drunk.[2] This gives us the next principle in treatment —namely give large amounts of water and relieve the diseased kidney of the burden of concentration. In practice some pleasant beverage is usually better taken than water; lemonade answers the requirements. It is best when commencing this treatment to give two liters of fluid a day, two days, and collect and measure the urine each day in order to find out whether water is well excreted. If water is excreted freely than gradually increase the fluid intake up to three or even four liters per day. Now we must not lose sight of an essential fact in this procedure, namely that the burden of the disordered function is being transferred to the heart. Pumping this extra water through the circulation means foot-pounds of extra work and occasionally edema develops as a result of cardiac insufficiency. With a majority of cases where edema resulted from this "forced fluid" method of treatment a correction of this symptom can be effected by the use of digitalis. With some cases, on the other hand, it becomes evident during the first two days that water is not well excreted; there is little or no increase of urine volume in response to increased intake of water. One should then try the effect of "drink days"—two or three days a week when the intake is considerably augmented. This plan permits of excretion of the excess of water during the interval days when the intake is less. A moderate amount of edema, however, is not to be regarded as a sufficient reason for reduction in water ingest. By contrast with the sequelae of marked nitrogen retention edema is relatively insignificant.

The principles already outlined point the way in the treatment of mixed types of nephritis and further discussion is unnecessary.

2. Amer. Journ. Med. Sciences, 1916.

REPORT OF TWO CASES OF PULMONARY TUBERCULOSIS PRESENTING CERTAIN POSSIBLE ERRORS IN DIAGNOSIS.

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There is nothing at all unusual about either of these two cases. In fact, it is because they are rather common that I wish to call your attention to them. They represent certain errors in diagnosis that I think are worth reviewing. The first is a case of a young man who insisted that he had lung trouble. He was repeatedly examined and assured by a number of competent men that there was nothing to be found on physical examination, and if you were to examine this patient, I am sure you would agree to those findings. However, a review of the history of the case gives one the diagnosis. There was a history of night

sweats and of hemorrhage about a year or two previous to the time he presented himself for examination. The X-ray plates show extensive fibroid infiltration particularly on the left. This might be expected to give diminution of resonance but there is sufficient compensatory emphysema to give good resonance. There were no signs of active tuberculosis, no râles to be heard at any point over the chest and the percussion note was the same on both sides. While the extent of the excursion of both sides might have been somewhat diminished, yet the lungs themselves were rather voluminous so that the man presented a chest of fair size and shape. This is a mistake that is very commonly made and I would call attention to it not because the diagnosis is so difficult when the case is carefully studied, but because of the fact that the physical signs failed to reveal the process.

The other case is one in which a diagnosis of tuberculosis had been made by two or three observers on the physical signs. The patient was a young woman and in a routine examination she was told that she had an apical lesion in the right apex which extended well below the right clavicle. This diagnosis was made because of a rather intense bronchovesicular breathing over that area. There were no râles so the patient was told that the condition was latent but that she should be careful about her mode of life in the future. In this case the history failed to reveal anything suggesting tuberculosis. She was very slight in build, of neurasthenic temperament with gastric disturbances which led her to reduce her diet to a minimum as the result of which she had been below weight for a number of years. Her only complaint was weakness and exhaustion occurring after a very ordinary amount of work.

The error occurred here through failure to make a comparison between the apices. On listening to the left apex a very loud vesicular breathing was heard and below the clavicle it was almost bronchovesicular. On the right it was so intense that if that apex were examined alone it would certainly suggest a lesion.

I am presenting the X-ray plates of both cases but not as a final proof of the diagnosis for in each instance I think the diagnosis could have been arrived at by a careful scrutiny of the history and physical signs.

DISCUSSION.

DR. JAMES G. VANZWALUWENBURG: This is a subject that lies fairly close to my heart. I see many of such cases in which there is a difference of opinion between different consultants, and which, as I think, are finally correctly interpreted when they come to the X-ray room. I have become very skeptical of the physical findings unless I am fairly certain that the man who has made the physical examination is an expert, and often an expert will go wrong. My attitude has been that I can only add my data to that of the others, but none the less, I believe the X-ray evidence should be taken with a little more weight in many cases. These two cases under discussion of course are outstanding cases where the diagnosis could have been arrived at by more careful, thorough clinical examination. But there is a class of cases repeatedly coming to me, often merely to satisfy the patient's own curiosity, that have definite radiographic signs in which no clinical signs can be elicited. Most of these patients are told "It probably does not amount to much if there is anything there at all," and they are not diagnosed as tuberculosis. I think it is more consistent to classify these as tuberculosis than what was done seven or eight years ago when one of the men in this school made a report on a large series of cases of incipient tuberculosis in which a year and a half later a relatively large number had recovered. I am perfectly satisfied that a number of these patients had no tuberculosis. I have repeatedly shown in this Society radiograms of people in whom the diagnosis was only made by the radiograph, so that I think I need say no more.

TRANSPLANTATION OF THYROID TISSUE.

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(From the Surgical Clinic, University Hospital, Ann Arbor, Michigan.)

The obvious value of the successful transplantation of thyroid tissue into cases of cretinism and myxedema has been the basis of my experimentation along these lines.

There are in the literature records of many experimental thyroid transplantations not only in mammalians such as dogs, guinea pigs, rats, mice, cats, sheep, pigs and rabbits, but amphibians, fish, birds and mollusks as well. Some investigators have attempted to transplant thyroid and other glands of internal secretion from one species to another of the same order, and even into species of a different order, but none of such experiments has been uniformly successful. The only attempt at transplanting tissue from a frog into a man that is reported as successful was that of transplanting epithelium from the frog's dorsum into the arm of a man. Even here the epithelization may have taken place in spite of the transplanted frog epithelium. The transplants extensively used are the autoplastic and homeoplastic or iso-transplantations. The sites chosen to transplant thyroid tissue have been quite numerous.

Stich and Mattas transplanted thyroid gland by means of blood vessel sutures in dogs and

succeeded in three cases out of ten in autoplastic grafts. Cristiani transplanted into the subcutaneous tissue such as the ear of rabbits, as this method permits better observation because of the size, transparency and vascularization of the graft. (1894-1906.) Salzer prefers intramuscular transplantation into the abdominal wall. Seman and Kocher in 1908 transplanted thyroid into the diaphysis of the femur. Payr transplanted thyroid into the spleen in 1906. He selected it because "the spleen possesses, thanks to its altogether peculiar and rich blood supply, unusually excellent conditions for transplantation of all kinds of tissue." The circulation is rapidly restored, a relatively small proportion of the transplanted part is sacrificed to central necrosis, and the processes of regeneration are more active and more extensive than in any of the methods of transplantation heretofore employed. The chief argument against transplantation into the spleen is the danger of hemorrhage. Chief among technical features are the use of the transplanted organ as a wedge into the splenic wound and of the omentum as a support for the stitches and a covering for the line of incision in the spleen. By this method Payr was able to keep splenic transplantations alive as long as 300 days. Homeoplastic transplantation of thyroid in man has been tried with very little success.

Payr was able to transplant successfully thyroid tissue from a perfectly healthy mother into the spleen of a totally imbecile child six years of age with severe infantile myxedema which had been treated by feeding thyroid for a period of three and one-half years without effect. The result somatically as well as intellectually was highly satisfactory. W. E. H. Groves and Cecil Joll report in the *British Medical Journal*, December 24, 1910, an interesting case of exophthalmic goitre treated surgically by two operations. Since there was very little thyroid and parathyroid tissue left after the second operation, symptoms of tetany appeared which were relieved by ingestion of thyroid gland. Marked improvement was noticed after grafting a piece of thyroid together with parathyroids from another patient. However, the iso-transplantation or homeotransplantation of thyroid in the hands of many workers has been uniformly unsuccessful. Stich and Mattas transplanted thyroid by means of blood vessel suture in all their homeoplastic cases, but the grafts did not take.

Hesselburg noted that both homeo and autografts undergo certain changes. At first both show central necrosis, the colloid substance diffusing through the surrounding tissue, the acini collapsing while the secreting cells of the autograft rejuvenate. Colloid is secreted in the acini and function is normal in ten or twelve days. Homeografts, on the other hand, do not regenerate; lymphocytes and leucocytes collect about the graft forming a barrier for nourishment, and many of the leucocytes carry away the dead cells of the isograft. The young fibroblasts destroy the foreign bit of tissue, apparently acting like osteoclasts in the osteogenic process in long bones.

In 1911 E. A. Smith of London made the assertion that "no successful case of homeoplastic transplantation of thyroid glands by vessel suture method had yet been reported. Several cases of homeoplastic transplantations in human surgery by methods other than vessel suture have been reported, but one proof is wanting in all, namely a subsequent removal and microscopic examination of the graft."

The non-success in isoplastic transplantation of thyroid gland is, I believe, due to the chemical differences in the tissues of the same species. It is a well known fact that hemolysins, precipitins and agglutinins are formed on injecting the blood of one animal into another of the same species and no doubt cytolysins and isolysins are formed. Usually, however, powerful products of this nature are not found in the blood of species of the same order, indicating that the biochemic conditions in animals of the same species are not very dissimilar. It is plausible that in a small percentage of cases of transplantation of tissues into animals of the same species very little isolysin will be produced, making the homeoplastic transplantation or isotransplantation of highly organized tissue possible. At the present time when transfusion of blood is to be performed the blood of the donor and the recipient is tested for hemolysins. I believe that in cases of transplantation of thyroid from one individual to another, the blood or humors ought to be similarly tested for isolysins. This is a feature that to my knowledge has not been worked up.

The success of transplantation of thyroid whether autoplastic or homeoplastic depends on the following factors:

1. There must be perfect asepsis in technic.
2. The transfer must be rapid.
3. There must be minimum manipulation of the transplanted tissue and the recipient organ, and crushing of the gland should be avoided.

4. In case of transplantation into spleen, hemostasis is essential.

5. Deficiency must be created greater than one-half the total internal secretion of the gland transplanted in order that the autotransplants may "take," grow and functionate. (Halsted).

6. In case of homeoplastic transplantation of thyroid it must be determined beforehand that no isolysin will be produced in the humors of the donor of recipient.

My first experiment was an attempt at transplantation into the diaphysis of a long bone after the Kocher method.

November 2, 1915, under ether anesthesia, the right hind leg of a dog weighing 25 pounds, was prepared. The usual precautions were taken for asepsis and an incision was made over the anterolateral surface of the left tibia. The skin was retracted and the periosteum incised and elevated. A cavity was chiseled into the marrow about one inch long and half an inch wide, and a silver ball about the size of a large pea was placed in it. The periosteum was sutured with linen thread and the wound closed in the usual manner. The dog was under the anesthetic about three-quarters of an hour and reacted well. A plaster dressing was applied to the leg of the dog in order to keep the wound aseptic but was not effective. The silver ball was lost and the dog developed traumatic osteomyelitis. We gave up this method because of infection which was easily introduced into the wound on account of its shallowness and accessibility to the animal's tongue. Later thyroid tissue was transplanted into the spleens of three dogs, two of which were prematurely killed in my absence. However, both dogs were healthy and did not show any signs of strumiprival myxedema four to six weeks after operation.

The third case was that of a female dog weighing about 25 pounds, operated under ether anesthesia January 19, 1916. A collar incision was made around the neck and the left lobe of the thyroid removed in its entirety. There was no other lobe of thyroid found on either side of the trachea. A left rectus incision was made and the spleen delivered through the opening. Two incisions were made into the spleen, a perpendicular one at the upper pole about two inches long and a horizontal one at the lower pole about the same length, both incisions resembling a pocket. Then two slices of thyroid tissue removed a few minutes previously, one-sixteenth to one-eighth of an inch in thickness and about the size of a quarter, were placed into these two incisions in the spleen. Hemorrhage was controlled by darning the spleen with two mattress sutures of silk thread. The wound was closed in the usual manner. February 17, 1916, the dog was still alive and doing well. No symptoms of cachexia thyreopriva were noticed. At no time did the dog show any symptoms indicating deficiency of internal

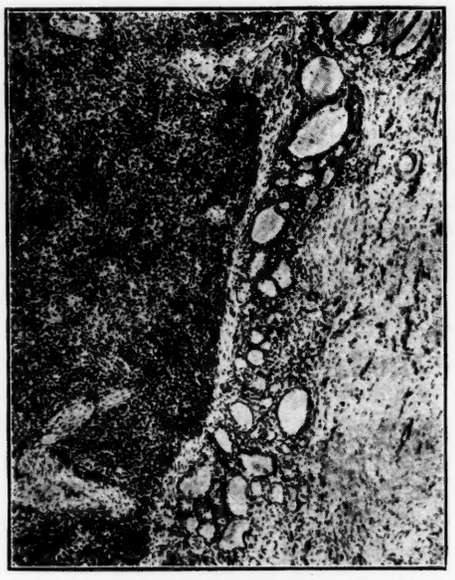

Fig. 1. Section of thyroid transplanted into the spleen. Low magnification. Thyroid tissue in the center with colloid in the acini. There is suggestion of capsule formation.

(Fig. 2. Section of thyroid transplanted into the spleen. (High magnification). One can see the cuboidal cells without basement membrane characteristic of thyroid tissue.

secretion of thyroid gland. Aseptic precautions, thanks to the skilful assistance of Mr. Wm. Gonne, were throughout perfect. The neck and laparotomy wounds healed per primam so that after about ninety days junior medical students being unaware, opened the abdomen of the dog

for other experimental work. The spleen was secured at this time and showed two small omental adhesions, being otherwise normal. Sections of the spleen were made at the Pathological Laboratory and pronounced by Dr. Warthin to be functionating thyroid transplantations. The dog maintained its nutritional equilibrium because as Halsted says, only a small portion of secreting gland is sufficient to supply the body demand. The sections of both pieces of the transplanted portion of the tissue (Figs. 1 and 2) show acini filled with colloid, polygonal cells, which have the granules characteristic of thyroid, with no basement membrane present. There is a suggestion of capsule formation from the young fibroblasts.

RELATION BETWEEN ACHLOROHYDRIA AND ACHYLIA.

QUINTER O. GILBERT, M.D.

(From the Clinic of Internal Medicine, University Hospital, Ann Arbor, Michigan.)

What I have to say will hardly be dignified enough to be called a paper. I wish merely to bring forth a few facts concerning the physiology of the stomach and a few facts relating to deficiency of the secretion and the methods by which we are now studying those conditions.

The three things of major importance that normally occur in appreciable quantities in the stomach, are the acid and the enzymes, rennin and pepsin. The acid normally in stomachs is considered to be free and combined hydrochloric acid. The quantity of acid present is usually given as 0.2 to 0.25 per cent. hydrochloric acid. Strictly speaking that is not so. The acid content of the gastric juice is much higher than that figure. If we get pure gastric juice which has been obtained chiefly in dogs with the Pawlow pouches, as has been done by Pawlow, Foster and Lambert, Carlson and others, we find that the percentage is higher. Carlson's work has the advantage in that most of his experiments were done on human subjects. He worked with two men who had gastrostomies performed and he was able to make some 300 observations on these two individuals both as to the composition of the gastric secretion and some of the other factors of gastric physiology. In the dog experiments, and in the observations of Carlson, the gastric juice acidity instead of being .2 per cent. is more nearly 0.5 per cent. The reason that acid, as we titrate it in the laboratory, is lower than that figure is due to two or three factors. The material we recover for examination is not pure gastric juice. We have the addition of saliva, changes of food in the stomach, dilution of fluids and by far the largest factor is the regurgitation of alkaline material from the duodenum back into the stomach. It is believed that the acidity of the stomach is never greater than the normal acidity that glands are able to secrete. There is some individual variation in this. Then the conditions wherein we get hyperacidity are really due to changes in the factors which tend to reduce the acidity rather than an increased secretion of hydrochloric acid, although in certain ulcerative conditions there may be a hypersecretion.

The other two things which we are concerned with are pepsin and rennin, more especially pepsin which is present as pepsinogen. True pepsin is capable of acting upon acid proteins. Therefore, by the action of pepsin we get the first cleavage products of proteins. There is another factor in which hydrochloric acid has been supposed to play a part which should be mentioned here. That is the action of hydrochloric acid in controlling the pyloric sphincter. We know that in conditions where we have no free hydrochloric acid in the stomach, that the stomachs of such patients as a rule empty very rapidly on a test meal. We know, on the other hand, that individuals who have a definite clinical hyperacidity have a moderate retention when there is no other pathology which we can demonstrate except the increased acidity. Cannon thought that he was able to demonstrate conclusively that hydrochloric acid by a delicate balanced mechanism regulated the pyloric sphincter. The acid on the stomach side stimulates the pylorus to open, while the acid stimulating the duodenal side causes the pylorus to close. When the acid on the duodenal side is neutralized by the secretions from the pancreas and the bile, the contraction is lessened and we have a relaxation from the duodenal side and stimulation from the gastric side and the pylorus opens. There are a great many physiologists who now believe that this is not by any means the whole story and that the regulatory mechanism is largely a nervous one.

By achlorohydria we mean a total absence of free hydrochloric acid in the stomach. There may be some combined hydrochloric acid or organic acids. By achylia is meant a total absence of free hydrochloric acid in the stomach.

There may be some combined hydrochloric acid or organic acids. By achylia is meant a total absence not only of free hydrochloric acid but also of the active enzymes, pepsin and rennin. In the routine examination of stomachs with hypermotility with the regular stomach pump, it is almost impossible to recover small residues. For this purpose in these cases we are using a small tube which we use in the fractional determinations of stomach contents. It is impossible to obtain definite data of the pepsin or of the curve of hydrochloric acid secretion unless one examines the contents of the stomach at various periods during the digestive cycle. A number of years ago men attempted this by giving a test meal, say at 8 o'clock in the morning. Fifteen minutes later the contents were recovered and tested. The next morning a similar meal would be given, the stomach evacuated thirty minutes subsequent to ingestion, and a longer period was taken on subsequent mornings. From this a curve of secretion was plotted. There is another method, the so-called fractional method which has received considerable stimulus from workers in Philadelphia. The method is to insert a Rehfus tube having a small tip containing slots on the end which the patient swallows. This being heavy, seeks the dependent portion of the stomach and one can with a syringe draw out a small quantity of the gastric contents and examine it for the three essential constituents, and then at suitable periods obtain other fractions. A similar tube is used for the duodenal contents. We have used a tube of white rubber with a piece of lead placed in the end to give it weight, and like it better than either of the above described tubes. This tube is larger and stiffer than the others and can be easily inserted and is not too large to cause the patient discomfort.

In achlorohydria or achylia, we are concerned largely in several groups of patients, *first* those associated with chronic gastritis. And there is quite a distinctive group of individuals who have this condition. Very many chronic alcoholics fall into this cass. In this group common in the Medical Clinic are the railroad employees who have been in the habit of eating cold snacks on the run with no regularity. A second group is associated with malignant changes in the stomach, another large group of cases with a deficiency in secretion are secondary to cardiac and renal diseases. Then again there is a class with purely nervous, psychic achlorohydria and achylia. The group in which we are most interested are those who have a lack of secretion in severe anemias. We have started now a routine examination of all the patients who have a hypoacidity or achlorohydria, making complete charts on two successive days by examining with the fractional method. We have made thirteen or fourteen charts of patients with achlorohydria and in most of these where we have found achylorohydria, there would also be no pepsin present. The point of interest to us is, have these patients enough secretory tissue left in the stomach which under proper circumstances would secrete enough pepsin to perform the ordinary processes of digestion? Ordinarily it takes a small amount of pepsin if it is activated to digest an ordinary meal. Normally there is pepsin in excess in the stomach.

I wish to demonstrate several curves of secretion which we have charted. The first curve is from a man who has a true achylia gastrica. The free acid curve remains absolutely zero. During this time there was no pepsin present and the total acidity varied from 10 cc. of n/10 acid per 100 cc. of contents or one-sixth to one-seventh normal acidity up to 18 or 19, and remained level to the end.

The parallel curves were made after administering acid. The therapeutic dose of hydrochloric acid which we give ordinarily is 30 minims with the meal, a similar dose administered after the meal, and that is usually considered a good sized dose. In this case at the beginning of the experiment we gave 30 minims of dilute hydrochloric acid and one-half hour after the meal again a second 30 drops. With this dosage the free acid curve remained almost level, at about zero. The combined level went up to 40 and the pepsin curve remained zero except at the time where the total acidity went up to 40, there was one unit of pepsin whereas the normal individual has 200 to 250 units.

On the third day we gave the man the same meal and 30 drops of dilute acid. At twenty minutes we drew off a portion of the contents for examination. At that time free hydrochloric acid was zero, and combined 15. After withdrawing the fluid we injected five drops of concentrated hydrochloric acid in 10 cubic centimeters of water and twenty minutes later withdrew another sample, and repeated the strong acid. This was repeated until the stomach was empty. After we injected five drops of concentrated acid ten times during two hours and thirty minutes, the free hydrochloric acid curve went up at one time to a high normal

free hydrochloric acid. The lower curve represents the curve of pepsin secretion. There was no pepsin during the psychic secretory period, and an appreciable amount during the second hour.

The second is the curve taken from a pernicious anemia case. His first curve is not unlike the one from the first patient. With the therapeutic doses given there was a slight rise in the combined acid, although the free acid remained zero and there was no pepsin activity. He was given nine injections of the five drops of hydrochloric acid and his free curve went up as high as 36 and his total went up to about 50 at one point. Pepsin remained negative throughout.

DISCUSSION.

DR. JAMES G. VAN ZWALUWENBURG: This is all very interesting, and from the point of view of the relationship of the gastric and duodenal secretions, it is very much to the point. However, from my point of view, there is another element in the control of gastric secretion and in the control of the pyloric reflex which is not mentioned, namely, the so-called "ileocecal pyloric reflex." Of course, the principle that the discharge from the stomach is more or less controlled through nervous mechanism from the terminal ileum is hypothetical, but to the X-ray man it has come to be a very real thing. We see clinical evidence of that almost every day and it offers a fairly satisfactory explanation as to why we should have a hyperchlorohydria in appendicitis, for instance. We know that irritation about the appendiceal region will cause a true pyloric spasm. I have seen a pylorus at operation swell and blanch in contraction even with the patient etherized, when the whole trouble was with the appendix. If we have a pyloric spasm in appendicitis which prevents the regurgitation of the alkaline duodenal contents, it seems very natural that the hydrochloric acid content of the stomach should rise. It would seem that this mechanism must be taken into account. As a matter of fact, I think it is so taken into account in much of the work that is being done. Only the other day I read a report of some work along this line in which the investigator used, not the normal human animal, but dogs and took the precaution to eliminate this particular reflex by section of the cord. Until we get some experiments along those lines our results are going to show the effect of a large number of complicating factors which will be exceedingly difficult to unravel.

DR. WILLIAM R. VIS: The belief seems to be growing that the pyloric reflex is not controlled very much by the relative acid content of the stomach. In a very recent number of *The American Journal of Physiology*, Morse quotes the results of experiments done on animals as Dr. Van Zwaluwenburg suggested. They also used different solutions that were introduced into the stomach with the question in mind that we are discussing here and from their results it seemed that it did not make any difference regarding the opening of the pylorus whether water or saline solutions or acidulated solutions were used. In Starling's latest book on physiology very little emphasis is laid on the relation of acid to the pyloric reflex. The pylorus is probably influenced by nervous mechanism which centers in the duodenal wall as well as in the prepyloric region.

DR. THEOPHIL KLINGMANN: I would like to ask Dr. Gilbert why he suggested that this method of administering large therapeutic doses of acid could not be carried out in practice.

DR. GILBERT: In reply to Dr. Klingmann's question, I think it would be impractical to give such large doses of concentrated acid as it would be necessary to use a tube.

The two point which Dr. Van Zwaluwenburg and Dr. Vis brought out, I had hoped that I had suggested in the work that had been done in Carlson's observations in the two patients with gastrostomies. In those cases where we have the reflex action causing the pylorus to contract, we have instead of a hyperacidity a secretion more nearly the concentration of the normal gastric secretion.

In Howell's new edition you find practically nothing about the acid controlling the pyloric sphincter.

In addition we might say that there was practically no delay in emptying the stomach from giving the acid, more than about twenty or thirty minutes, which might be a daily variation.

A REVIEW OF CERTAIN PELVIC CASES SHOWING THE VALUE OF VAGINAL ASPIRATION AS A DIFFERENTIAL DIAGNOSTIC PROCEDURE.

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The purpose of this paper is to call attention to the diagnostic value of vaginal aspiration in certain pelvic conditions. There are many cases in which we have a definite mass in the pelvis in the mid line, or to one side associated with pain in the lower abdomen, and fever. The history in these cases is often misleading, and since the surgical procedure depends upon the exact nature of this mass any means which will aid us in arriving at an accurate diagnosis must be most welcome.

Typical cases of acute pelvic inflammatory disease with purulent exudate offer little difficulty in diagnosis, and the same is true of a typical case of ectopic pregnancy. But many

of the cases with which we have to deal are atypical, and certain valuable symptoms and signs are missing. It is in these cases that vaginal aspiration is of most value. In ectopic pregnancy, the menstrual disturbance may be so slight as to pass unnoticed, and there may be a history of continued pain in the side, with moderate fever and leucocytosis. Likewise in pyosalphinx we may get a history of a sudden sharp pain in the side with a moderate irregular fever. There may be some menstrual irregularity, and this with the presence of a soft mass in the region of the appendages might lead us to a diagnosis of extrauterine pregnancy. An old pelvic abscess, with a dense wall may even be mistaken for a fibroid, or an ovarian cyst. In such a case laparotomy might be attempted, as in one of the cases cited below. Furthermore, many cases of ectopic pregnancy occur in women with gonorrhea, or other inflammatory condition in the tubes, and we may have both extrauterine pregnancy and pyosalpinx in the same case. In such a case, even with a clean cut history of an ectopic, aspiration is especially indicated. The presence of pus, mixed with the blood, is a contraindication to abdominal section, and in these cases colpotomy is the operation of choice.

The danger of mistaken diagnosis is evident. Although pelvic abscesses are most frequently of gonorrheal origin and sterile, yet a certain proportion of them contain active pyogenic organisms, and contamination of healthy peritoneum will sometimes result in general peritonitis. A number of years ago it was the custom to treat purulent collections in the pelvis by abdominal section, and extirpation of the abscess sac together with the pelvic organs. This is extremely dangerous, and needlessly radical. The rational treatment of pelvic abscess is not laparotomy, even if there is no danger of peritonitis, but vaginal puncture and drainage. This is safe and conservative because it gives nature the chance to restore the pelvic organs to their normal functionating condition. If symptoms persist the diseased organs may be removed when the abscess is healed.

In such cases it has been the practice in the Gynecological Clinic to employ the aspirating syringe as a final diagnostic procedure. The cervix is brought down with a volsellum forceps, and the needle inserted posterior to one side or the other, as the case may be. The mass is aspirated and the contents of the syringe noted.

Although the presence of blood does not always mean ectopic, yet this is true in such a large proportion of cases that in the presence of a suggestive history, laparotomy is indicated. The presence of pus in the aspirating syringe of course indicates colpotomy and tube drainage. The added security of such a procedure is apparent.

Vaginal aspiration is comparatively harmless. It is done only in those cases in which there is a definite cystic mass in the pelvis with a suggestive history of inflammation. If the collection of fluid is pyosalpinx the tube is enlarged and prolapsed into the cul-de-sac. If there is a collection of pus in the parametrial connective tissue the cul-de-sac is filled with a retroperitoneal abscess. In case of ruptured ectopic there is either a collection of blood in the broad ligament, and consequent displacement of the intestine, or there is a large mass of blood in the peritoneal cavity which gravitates into the pelvis. In any case the gut is lifted out of the pelvis by the exudate, and there is but little danger of puncturing it.

Should the intestines be adherent to the pelvic organs and be punctured by the aspirating needle little harm will be done. The hole will be quite small, and will contract down quickly when the needle is withdrawn, and but a minimum amount of infectious material will escape. Even if some of this should soil the pelvic peritoneum there is but slight danger of general peritonitis since the pelvic peritoneum is much more resistant to infection than that of the rest of the abdominal cavity.

This is in marked contrast to abdominal aspiration of tumor masses. Here the aspirating needle must of necessity pass through two layers of peritoneum. In large tumors, such as ovarian cysts, there is but little danger of puncturing the gut, but the fluid is under so much tension that even a small puncture hole will allow it to escape. Should this be infected, as is the fluid in many large cysts, there is great danger of general peritonitis because the peritoneum in this locality is not nearly so resistant to infection as the pelvic peritoneum. The danger of this procedure was conclusively

shown by Dr. Peterson in a case reported a number of years ago. An ovarian cyst was aspirated through the abdomen with a very fine needle under aseptic conditions. At operation a few days later a quart of free fluid which had escaped from the needle puncture was found in the abdominal cavity. In this case, however, the fluid was aseptic, and the patient made an uneventful recovery.

Despite the value of vaginal aspiration for diagnosis in these doubtful cases, the textbooks make but scant mention of it. Kelly, in his book on Operative Gynecology, mentions colpotomy as one form of treatment in old cases of ectopic pregnancy where there is little danger of recurring hemorrhage, but makes no mention of aspiration of the mass for diagnostic purposes. In Kelly and Noble's Gynecology and Abdominal Surgery, aspiration is advocated in doubtful cases. However, but little stress is laid upon this point. Crossen, Graves, and Montgomery advise laparotomy in ectopic, and colpotomy in pelvic abscess, but make no mention of aspiration as a means of determining which condition is present.

The following recent cases are quoted from the records of the Gynecological Clinic as illustrative of this point.

CASE 1. Mrs. F. M., age 24, entered the Hospital April 18, 1916, complaining of pain in the left side. The past history was negative except for a stillbirth in May, 1915. The labor was normal but the placenta was removed manually. There was no history of sepsis following the labor, but she never entirely recovered her strength. For the past six months she had had an occasional pain in the lower abdomen. This pain had been getting worse, and was localized in the left side. She had had no definite chills nor fever, but had lost considerable weight and strength. Her periods had been normal, except that since her last period in March she had had a slight blood tinged discharge. Examination revealed a poorly nourished girl, very weak, and anemic. There was a tender mass in the region of the left appendage, and a tentative diagnosis of pelvic inflammatory disease was made. Ectopic pregnancy was considered, but the findings were not thought to be conclusive. The patient was observed for a week, and at no time did her temperature rise above 99.4 degrees. Vaginal aspiration showed old blood, conclusively proving that the mass was ectopic. Laparotomy was performed and a left sided ectopic, with rupture in the peritoneal cavity was found and removed.

CASE 2. Mrs. C. W. age 42, entered the Hospital January 5, 1917, complaining of pain in the left side. She had been pregnant four times, having two living children, and a history of two miscarriages at the third month. The last pregnancy was seven years ago. Since last November she had had three severe attacks of pain in the left side associated with fever, each one lasting several days. There were no signs of hemorrhage with these attacks. She menstruated steadily for three weeks in November, since when she had had no regular period. She had, however, a slight show of blood on several occasions. Examination revealed a mass on the left side of the uterus, displacing it somewhat and extending half way to the umbilicus. Her temperature before operation varied from normal to 101 degrees. Aspiration showed a thin purulent fluid, and posterior colpotomy was done, liberating a large amount of foul pus. A rubber drainage tube was inserted and the patient made a good recovery.

CASE 3. Miss S., age 27, colored, entered the Hospital November 20, 1916, as an emergency, complaining of pain and tenderness in the right side. She had been repeatedly exposed to pregnancy. She flowed normally in September and scantily in October. Since November 4th, she had flowed continuously, but had never passed any clots or pieces of flesh. The pain in the right side had been gradually growing worse. There was no history of hemorrhage although her hemaglobin was only 65 per cent. by the Miescher method. Examination revealed a mass on the right side reaching almost to the umbilicus and the uterus was displaced somewhat to the left. Her temperature was 100.4° the evening preceding the operation. Vaginal aspiration showed dark fluid blood. Laparotomy was performed and a right sided ectopic removed, together with a large amount of old blood. The patient made an uneventful recovery, and was discharged two weeks after operation.

CASE 4. Mrs. M., age 40, entered the Hospital April 26, 1916, complaining of pain in

the left side, irregular menstruation, and backache. Her last normal period was December 20, 1915. In January and February she flowed scantily, and not at all in March. On April 6th, she was seized with a sudden sharp pain in the abdomen, and felt faint. The pain was present at intervals for three weeks, becoming more marked the week previous to entrance to the Hospital. She had been flowing slightly for the past two days. At no time had there been any definite history of fever, and her temperature was normal on entrance. Examination revealed a very tender, cystic mass on the left, about the size of an orange. A definite diagnosis of ectopic was made. Aspiration revealed nothing but a clear cystic fluid, but since there was no pus in the pelvis, an incision was made and a left ovarian cyst the size of an orange was removed, together with the ectopic mass which had ruptured into the peritoneal cavity.

CASE 5. Mrs. C., age 28, entered the Hospital January 26, 1916, complaining of a tumor in the lower abdomen. She was operated in September, 1916, when an attempt was made to remove the tumor. The attempt was unsuccessful, and two weeks afterward the lower pole of the wound began to discharge and this had continued ever since while the tumor had grown more rapidly. She had had no fever and no pain during this time. Her last period was in August and there had been no show since. Examination revealed a hard, non-cystic mass filling the left side of the pelvis. A small fibroid nodule was felt on the anterior surface of the uterus. Vaginal aspiration revealed the presence of pus, and the entire mass collapsed after colpotomy. The patient made a good recovery, and although the abdominal sinus had not quite healed on discharge, yet it had stopped draining.

In each of these cases vaginal aspiration gave us very valuable information. In Cases 1 and 3 it conclusively demonstrated the presence of extrauterine pregnancy. In Case 4, although the ectopic mass was not reached by the aspiring needle the presence of clear cystic fluid ruled out pelvic abscess, and the typical history of ectopic made it perfectly safe to make an incision. In the fifth case, laparotomy had actually been performed on an old pelvic abscess under the supposition that it was an ovarian cyst. The result of this inaccurate diagnosis was that the patient was left with the discharging sinus.

The result of a more general application of this diagnostic procedure will be that the indications for colpotomy and abdominal section will be more definitely determined. As a consequence, we will have fewer cases of peritonitis and persistent abdominal sinuses.

The conclusions which we may draw from the consideration of this subject are as follows:

1. That it is impossible to differentiate clinically between atypical cases of ectopic gestation, and purulent collections in the pelvis.

2. Typical cases of ectopic may be combined with pyosalpinx.

3. In case of a mistaken diagnosis, laparotomy in the presence of pus, is a dangerous and unnecessarily radical procedure.

4. Vaginal aspiration is comparatively harmless, and may be employed in the routine ether examination without materially prolonging the operation.

5. Abdominal aspiration is not safe.

6. Although blood in the pelvis does not always mean extrauterine pregnancy, nevertheless laparotomy is justifiable in the presence of such findings.

DISCUSSION.

DR. REUBEN PETERSON: I don't know that I have much to add to Dr. Henderson's excellent paper. I have always felt that vaginal aspiration has been insufficiently emphasized. My mind goes back to about 1890, the beginning of the radical treatment of pus in the pelvis. At that time we were influenced by the teachings of Joseph Price and other radical operators. These men did a great deal for abdominal surgery. Before that time we had been cowardly. At that time I was an interne in a hospital and I saw how these pus tubes and pelvic neoplasms were treated. The common method then was to make a small incision in the culdesac and stick in a drainage tube through the very small incision after evacuating the pus. Then it was the duty of the interne to wash out these cavities. Because of insufficient drainage the smell was horrible and we dreaded this class of cases. They didn't get well. There was a long continued sinus. After a while the drainage tube was removed. The patients were emaciated, very weak, and septic. I remember very well when I was an interne in the Free Hospital For Women at Boston. Price made a visit to the clinic and he was taken around and shown these patients. It wasn't a very good exhibit. He said to the surgeon in charge, "Why don't you open the abdomen and clean out the pelvis?" The surgeon

said, "Why, I never heard of such a thing." Dr. Price said, "If you go to work and open up the abdomens and take out the pus tubes these patients will get well." He went all over the country preaching this doctrine, and we young men who were ambitious to do abdominal surgery followed his teachings for six or eight years. It was considered cowardly not to open the abdomen and remove a pus tube, no matter how large the pus tube or how many technical difficulties there were. We persisted in this method in spite of quite a high mortality. The high mortality could not all be explained by the fact that we were new to abdominal surgery because even after we had had a great many cases a certain proportion of patients died from general peritonitis. The mortality was a great deal higher than the operators were honest enough to acknowledge. I think that it was as high as 10, 15, and perhaps 20 per cent. I remember very well the case that led me to change my practice in the treatment of pus tubes.

I was called to see the daughter of a physician in Grand Haven. She had been septic with a very large pus tube for a number of weeks and her father had been loathe to have her operated upon. She was in such a bad condition that I told him it would be folly to attempt an abdominal operation and the only thing I could do was to open the culdesac and let out the pus, which I did. I said, "Afterwards when she has recovered her health and strength, we can remove the pus tube." That woman never was operated a second time, much to my surprise. She got perfectly well and in less than a year's time it was impossible to tell on which side the pus tube was. Since that time I have treated pus in the pelvis by means of the vaginal incision.

However, what Dr. Henderson has brought out so well will always obtain in pelvic and abdominal work. It is not always so easy to make a diagnosis between pus tube and ectopic pregnancy. It is not always so easy to tell whether you have a fibroid or a large amount of inflammatory tissue in the pelvis. Anyone who says he can always make a diagnosis from the history or physical findings does not sum up the results of his experience. For that reason it has been my custom to use for a number of years the vaginal aspirator because if there be pus in the pelvis, I think I am doing much better for my patient to make an opening from below. There is not much danger, the needle is fine, everything is shut off, and if you do puncture the bowel, which I don't remember of doing, it would not do any harm. We must not forget also that a ruptured ectopic eventually may become purulent and if the mistake is made and the abdomen is opened in such cases it goes very hard with the patient and the mortality is very high. So, looking at it from all aspects, it is a safer procedure to insert a needle prior to the more extensive opening of the posterior culdesac to drain whatever may be necessary in the pelvis.

I well remember the case which he speaks of where the aspiration was made through the abdomen. We had gone over this case very carefully in the clinic and had made a diagnosis of ovarian cyst, and in order to prove it to the class, I inserted a long needle through the abdominal wall and drew off some fluid. We operated later and found a pint or two of fluid in the abdominal cavity. It is an entirely different matter when the aspiration is made from below.

DR. R. A. BARTHOLOMEW: I was also somewhat interested in looking over the textbooks to find that out of four or five of the better known textbooks on gynecology, there was only one, Kelly and Noble, that made any mention of vaginal aspiration as a means of diagnosis. As Dr. Henderson has said, the necessity for this procedure is found to be greatest in those cases of ectopic which are somewhat atypical and resemble inflammatory cases. Kelly also gave statistics showing the relative mortality in cases where abdominal operation was done and in cases where posterior colpotomy was done, the former having a mortality of about 27 per cent. and the latter about 2 per cent.

The behavior of the tube when it begins to distend with pus or blood is rather typical in most cases. Apparently the weight of the ovary and the posterior traction of the infundibulo-pelvic ligament tends to pull the tube over in the posterior direction, and as it further distends, it comes to lie against the vault of the vagina where it is very accessible to the needle and in such cases the diagnosis can be made without danger of injuring the intestine or ureter.

DR. R. W. KRAFT: I would like to ask Dr. Peterson a question. As I understand it, in 1890 these patients who were drained were cachectic. What difference is there in the drainage now in order to insure a good recovery at this time when at that time they remained septic. How does the operation of the present day differ from the operation of 1890?

DR. PETERSON: There was a medical incision made in those days just long enough to introduce a small drainage tube. There were no apartments of the pus tube broken up so that you used to have a number of cavities and only one of them drained. In the modern operation of colpotomy an incision is made from one side of the pelvis to the other and the finger introduced along the posterior wall of the uterus. All of these cavities are broken up so that you get good drainage. Then having such a large surface to drain through, you don't get the retention of pus you used to in the old days.

AFTER HISTORY OF A PATIENT WITH INOPERABLE VESICOVAGINAL FISTULA WHERE THE RECTAL WAS SUBSTITUTED FOR THE VESICAL SPHINCTER.

REUBEN PETERSON, M.D.
(From the Clinic of Obstetrics and Gynecology, University Hospital, Ann Arbor, Michigan.)

I desire to place on record the after-history of a patient whose case I reported rather recently before this Society. It was the case of a woman who had had her bladder and the upper part of the vagina torn all to pieces by the unskillful application of the obstetric forceps. There were so many adhesions in the upper part of the vagina that it was impossible to locate either the cervix or the external os. After attempting to close the fistula and failing because of the condition of the parts, an opening was made in the rectum and the vagina closed.

The patient made a good recovery, being able to retain the urine for some hours through the action of the rectal sphincter. Naturally it was thought that the menstruation would have to be stopped by some method to prevent the retention of the menstrual blood within the uterus. However, just before she left the Hospital she began to menstruate through the rectum and we allowed the patient to go home after warning her that she might have to return in case of subsequent trouble with the menstrual function.

Subsequently she wrote me that she was much improved in health and that she would consider herself perfectly well except for terrific cramping pains just prior to the menstrual flow. These pains she described as something fearful until they were relieved by the appearance of the menstrual blood in the urine passing by way of the anus. The cause of the pains was perfectly apparent. They were due to efforts on the part of the uterus to force the menstrual blood through an os buried in cicatricial tissue. When once the obstruction was overcome and the flow established, the patient was relieved.

After the patient re-entered the Hospital various methods of relieving her were considered. It seemed useless to attempt to find the external os through the rectovaginal opening since such an attempt had failed when access to the upper part of the vagina had been had through the introitus aided by sight as well.

The choice then lay between stopping the menstruation by means of the X-ray or removal of the ovaries. The patient objected to the former method on the ground that she might have to remain in the Hospital too long. She preferred removal of the ovaries which she claimed were of no use to her since she could never have any more children and since even sexual intercourse was impossible. So the ovaries were removed through an abdominal incision yesterday with the expectation that menstruation will cease and a cure will result.

It is not claimed that the series of operations on this patient constitutes ideal surgery. It is only applicable to the unusual case of bladder fistula, since in nearly all cases the opening can be closed by one or more operations. However, where that is impossible because of the loss of the bladder sphincter or for other reasons, I claim it is a procedure which can be counted on to give great relief to the patient. I showed this patient in the Gynecologic Clinic yesterday and she expressed herself as being very happy over her present condition when compared with the sufferings she underwent when her vulva and thighs were continually wet with the dribbling urine. She stated that if she could be relieved of the recurring menstrual pain she would be perfectly contented.

In looking up the literature of such operations I find that quite a large percentage of the patients ceased to menstruate after the rectum was opened and the vagina closed. It is rather difficult to explain why menstruation ceased since the ovaries were not removed, nor was there anything about the operative technic to cause cessation of the ovarian function. Where menstruation continued after the operation, no untoward results, such as infection of the uterus, resulted. This lack of uterine infection, as well as the absence of renal infection, would tend to show that very few colon bacilli found their way into the vagina through the rectal opening.

The Journal
OF THE
Michigan State Medical Society
ISSUED MONTHLY UNDER THE DIRECTION OF THE COUNCIL

Arthur M. Hume, Chairman ..... Owosso
Guy L. Kiefer ..... Detroit
W. J. Kay ..... Lapeer
W. J. DuBois ..... Grand Rapids

EDITOR
FREDERICK C. WARNSHUIS, M.D., F.A.C.S.
Grand Rapids, Mich.

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May

Editorials

WHAT THE PROFESSION OF MICHIGAN MUST DO TO RESPOND TO THE COUNTRY'S CALL.

The medical quota for Michigan to be called to active service at the front is six hundred. I am asked to write an editorial for the *Journal* on, "What the Profession of Michigan must do to respond to the Country's call."

Briefly—*It must furnish this quota.* That it will do so and promptly, there is no manner of doubt. And the quota will be of the choicest character. Of this there can be no question. Michigan's medical standards are high and the personnel of the profession is excellent. Those called to the front will acquit themselves with honor and distinction. God speed them on their benevolent mission and accord them safe return to their homes and firesides.

What are the "stay-at-homes" to do? Some of the ineligible would enlist but they may not break down the portals of the recruiting office, and demand as did the octogenarian Anatole France to go to the firing line. Most of them lack the audacity and sublime courage to compel reluctant consent to such a demand. They must content themselves with the activities related to civilian practice, the base hospital and the Red Cross. Certain important trusts will be committed to their hands which they must exercise with vigilance and determination that the square deal shall prevail.

First: There should be appointed by every County Medical Society a committee composed of its most conscientious members who will direct their energies to the conservation of the local practice of the men at the front. Those at the front may communicate to this committee their wishes in regard to temporary medical and surgical charge of former patients. An *entente* thus established would, it is hoped result in the maintenance of their professional standing and the continuation of personal dependence on the part of their patients. These should be led to feel that absence is but temporary and every effort should be made to keep alive the spirit of allegiance and the memories of previous service. Hospital and other appointments should be accepted as *interim* only—the new incumbent making plain that he is acting in the place of the patriotic absentee.

Second: A committee of the County Medical Society should assure itself by personal visitation that the physicians' families or dependents lack nothing. A fund should be at once provided, placed in the bank, disbursable on the Secretary's check and augmented by monthly assessments upon Society members and voluntary contributions, to fulfill every probable need in succoring those left without adequate means of support.

Third: There should be created in every County Society a fund similar to the P. S. D. for the purchase of supplies in emergency for those at the front. They should be assured of occasional luxuries and never lack the necessities unobtainable because of all too meagre salaries. Reasonable requisitions upon this fund should be promptly honored that no military medical activities may be hampered by lack of nourishment or failure of equipment.

Fourth: Mobilization of nursing forces, Red Cross and home guard duties are other outlets for professional effort and it may well be that treasonable and disloyal disposition in any community may be checked or thwarted through revelations on the part of the physician. He is accustomed to observe and quick

to analyze and act. His training has created this habit of mind. It should be a useful and dependable agency in the Secret Service.

I offer the motto: *"Co-operation with the worker at the front. Protection of his interest at home.*

C. B. BURR.

THE NATION'S CALL AND THE NATION'S NEEDS.

Hard as it is to realize it, yet war is upon us and with the most efficiently organized military power of Europe. Congress must provide an enormous army to meet this Country's needs and towards those needs the Medical Profession must supply its quota. To meet them; to select physicians for the medical Section of the Officers' Reserve Corps, for the Guards, for the Navy and for the large army to be created and organized; to see that men are selected for their ability and efficiency in certain directions; to protect the practice of these medical officers during their absence; and to make provision for their families, the Michigan State Medical Society is called into extraordinary session at Battle Creek at 10 a. m., on Thursday, May 10, 1917.

The Medical Service of the Army in times of peace, efficient as it is, can never be recruited to its war strength. It can serve only as a nucleus of the necessarily larger body. At the time of the Spanish-American war the additional medical officers required were taken from civil life and given contracts to serve and were known as Contract Surgeons, an anomalous position, unsatisfactory both to the Government and to the medical officer. He held the minimum grade, was given no promotion and was entitled to no pension, if injured or disabled. He could be discharged at will by the Government. But within the last eight years legislation favorable to the development and the efficiency of the service has been enacted. In 1908 the Medical Reserve Corps of the Army was created and this has brought to the service of the Army many eminent physicians from civil life. On June 3, 1917, this corps will be known as the Medical Section of the Officers' Reserve Corps, and will be "a body of medical men who have accepted commission from the President in order that in time of peace they may, insofar as it is possible, prepare themselves for service in war." Their commission reads for five years and when in active service they are a part of the Army, subject to its orders and its discipline. It is estimated that no less than seven medical officers to every 1,000 men is needed, which means for an army of 1,000,000 men 7,000 to 10,000 Medical Officers. Besides this, thousands of physicians and surgeons will be needed for the Red Cross service, which in time of war is under the supervision of the War Department, though financed by private funds. I understand that those serving with these units will be members of the Medical Section of the Officers' Reserve Corps detailed for this work.

The service of all of us will be needed; those up to 45 years of age for active field work; those between 45 and 55 years for special work in base and governmental hospitals; and those above 55 years for selective work. Those disqualified by physical disability and those unable to serve because of great home responsibilities will have plenty to do to look after the interest of those in the service.

In this spirit of patriotic duty and of mutual helpfulness let us meet together, ever mindful that the medical profession has never been found wanting in a national crisis.

ANDREW P. BIDDLE.

OUR PATRIOTIC DUTY.

The time for argumentative debate is past. The discussion of "why's," "ifs" and "if we only had's" is no longer pertinent. The hour has struck, our Country has declared its position, we have enunciated our attitude and purposes—we are at war. Our President calls upon us to respond to the defense of our flag and those principles and privileges which are vouchsafed to those who pledge to it their allegiance. It now rests with each individual as to how and in what manner he will respond to this call and what his individual contribution will be to his country in this hour of mobilization.

As members of the Medical Profession of Michigan a responsibility is placed upon us. We are called upon to provide SIX HUNDRED PHYSICIANS AND SURGEONS for active field duty. One quarter of our membership

or one-fifth of the total number of the profession of this state is needed NOW to serve in the Medical Departments of our Army and Navy. What are you going to do, Doctor, to fill this quota that is called?

We are mindful of all that is entailed by stepping forth and proffering one's service. We realize most fully what ties must be put aside, what hopes must be postponed. We appreciate the plans that will be disrupted, the personal sacrifices that will be occasioned. And still over and above all these personal affairs, ambitions, pleasures, hopes, desires, there clearly stands out the call—"Michigan SIX HUNDRED DOCTORS TO SERVE OUR FLAG." No, we will not falter or waver even. Loud and clear will be, MUST BE, our reply: "WE ARE COMING."

Doctor, ere the echo of our answer fades away, will you not cause to be placed in Dr. Reuben Peterson's hands the enrollment of names from your county to fulfill this quota? Doctor Peterson is Chairman of the State Committee that is pledged to present to the War Department six hundred doctors from Michigan.

Quickened by the examples of the past, instructed by its experience, warned by its voices, assisted by its accumulated instrumentalities, may we reproduce today in life that spirit that inspired our Michigan doctors to respond to their Country's Call in the years that have gone. May we emulate their labors and partake of their immortality. Your duty is clear; may your response be prompt.

DELEGATES' CREDENTIALS.

Owing to shortness of time and because lists of County delegates are not complete, County Secretaries are requested to supply each delegate with a letter certifying to his election as a delegate. Delegates will present these letters at the opening of the House of Delegates.

PLACE OF MEETING.

The Special Session will be called to order in the Masonic Temple, Battle Creek, at 10:00 A. M., May 10th, 1917.

SPECIAL MEETING—THE OFFICIAL CALL.

Recognizing the tremendous responsibility which rests upon the medical profession of Michigan by our Country's entrance into the world's war and responding to the President's call to defend the commendable principles enunciated in his message to Congress, it has been deemed wise and imperative that our State Society convene in extraordinary session. The deliberations of the extraordinary session will be devoted to the presentation of our responsibilities, the discussion of measures of preparedness, enlistment, Red Cross, hospital and relief work and such other features as may coincidently present themselves.

Therefore, as President of the Michigan State Medical Society and by virtue of the authority vested in me, I do hereby announce and declare that our State Society will convene in SPECIAL SESSION IN BATTLE CREEK, CALHOUN COUNTY, AT 10:00 A. M., ON THE MORNING OF MAY 10, 1917.

The Component County Societies are requested to send thier official delegates and to urge the attendance of every member.

Andrew P. Biddle, President.

SPECIAL MEETING—THE COUNCIL

The Council of the Michigan State Medical Society will convene in SPECIAL SESSION AT 8 P. M. on May 9, 1917, in Battle Creek. The deliberation of this body will be devoted to the problems that are presented or to be presented during the special meeting of the State Society on May 10, 1917.

W. T. Dodge, Chairman.

OUR OBLIGATION.

The plan to call an extraordinary session of the Michigan State Medical Society for May 10th next is to be commended. It will furnish an opportunity for the Michigan medical profession to demonstrate to the President that his appeal to the American people to enlist in "a great national, a great service army" will

be responded to by the physicians of this State. Doctors as a class abhor war. It is repugnant to them, not only because they know only too well from their daily experience what suffering from violence and disease really means, but because it is instinctive to the profession to save and not destroy. But the time has passed when we can argue for or against war. It is here and we must do our part toward carrying it to a successful issue.

How can we as a profession do our bit? Who are to go and who are to stay? What are our duties toward our country and toward our families? These and other equally important questions must be answered by us individually and collectively. Hence, it is well in these times to have a special session of our State Society that we may hold counsel.

It has been my lot during the past few months to discuss with many physicians in the state the questions that are so agitating us now. Some were ready and eager to go at the first call. Others were willing to go if they had to go. But no matter how the question was answered I have yet to find one doctor of military age who said he would not sacrifice every thing and serve his country if the need were great.

After all it comes down to that fundamental question, "Am I greatly needed or is this another border mobilization? If it is, I do not care to leave my practice for field duties which do not particularly interest me." The answer seems plain. This is no border scrimmage. It is a serious crisis, undoubtedly the greatest national crisis since the Civil War. We are going to win or help win the struggle but only at the greatest sacrifice. Who is there among us who has the temerity to predict when the war will end? Certainly not the medical profession whose entire training tends toward cautious prognosis. There has been talk of an army of two millions. Who has the supreme confidence to look into the future, after witnessing what has taken place in Europe during the past two and a half years, and deny the possibility that we may have to raise an army of twice that size before we are through with this affair? Let us not forget what happened in the Civil War. Ninety day enlistments and the war was to be over; and it took four years.

Yes, the crisis is here. The country needs physicians in its Medical Officers' Reserve Corps and wants them now. If we wait six months or a year before offering our services, remember it will be six months after that before we will be worth a great deal from a military standpoint, we civilian doctors unaccustomed to discipline and ignorant, the great mass of us, in matters absolutely essential to a perfectly organized medical corps.

That those in authority think that many of us will be needed is shown by the efforts of the Council of National Defense to organize the profession throughout the country. Committees for medical preparedness have been appointed in each state. In turn auxiliary medical defense committees have been appointed in the several counties of each state. The duties of these committees are to gain needful information regarding the civilian medical resources of their own communities and to provide the machinery whereby applicants can be secured for the various army and navy medical services.

The Michigan profession has most loyally responded to the call for organization as may be seen by the personnel of the state and county committees appended below.

The machinery is now complete. Every qualified physician in the state will be seen or written to by his county committee and given an opportunity to become an applicant for the Medical Officers' Reserve Corps. At the lowest estimate Michigan will be expected to furnish 500 doctors for the service. Are you planning to be one of these? If so get into communication with your county chairman at once.

REUBEN PETERSON.

MICHIGAN STATE COMMITTEE FOR MEDICAL PREPAREDNESS.

Reuben Peterson, Chairman, Ann Arbor.
Max Ballin, 357 Woodward Ave., Detroit.
Andrew P. Biddle, David Whitney Building, Detroit.
James T. Case, Battle Creek.
C. B. G. de Nancrède, Ann Arbor.
J. G. R. Manwaring, Dryden Bldg, Flint.
Walter R. Parker, David Whitney Bldg., Detroit.
Richard R. Smith, Metz Bldg., Grand Rapids.
Victor C. Vaughan, Ann Arbor.
F. C. Warnshuis, Powers Theatre Bldg., Grand Rapids.

CHAIRMEN AUXILIARY MEDICAL DEFENSE COMMITTEE.

Allegan County—Arthur L. Robinson, Allegan.

Alpena, Alcona, Montmorency Counties—Clarence M. Williams, Alpena.

Antrim, Charlevoix, Emmett Counties—Frank W. Witter, Petoskey.

Barry County—John W. Rigterink, Freeport.

Bay, Arenac, Iosco Counties—Virgil Tupper, Bay City.

Berrien County—David Littlejohn, Bridgman.

Branch County—Bert W. Culver, Coldwater.

Calhoun County—James T. Case, Battle Creek.

Cass County—William C. McCutcheon, Cassopolis.

Cheboygan County—Willis E. Chapman, Cheboygan.

Chippewa, Luce, Mackinac Counties—Emil H. Webster, Sault Ste. Marie.

Clare, Isabella Counties—James F. Adams, Mount Pleasant.

Clinton County—Walter A. Scott, St. Johns.

Delta County—Arthur J. Carlson, Escanaba.

Dickinson, Iron Counties—S. Edwin Cruse, Iron Mountain.

Eaton County—Francis R. Blanchard, Eaton Rapids.

Genesee County—E. C. Rumer, Flint, Smith Building.

Gogebic County—Axel A. Anderson, Ironwood.

Grand Traverse, Benzie, Leelanau Counties—F. Holdsworth, Traverse City.

Gratiot County—Cyrus B. Gardner, Alma.

Hillsdale County—Walter H. Sawyer, Hillsdale.

Houghton, Baraga, Keweenaw Counties—W. K. West, Trimountain.

Huron County—Charles B. Morden, Bad Axe.

Ingham County—Harry A. Haze, Lansing, 123½ Washington Ave.

Ionia County—Joseph F. Pinkham, Belding.

Jackson County—C. G. Parnall, Jackson.

Kalamazoo County—A. W. Crane, Kalamazoo.

Kent County—Richard R. Smith, Grand Rapids.

Lapeer County—William J. Kay, Lapeer.

Lenawee County—A. W. Chase, Adrian.

Livingston County—John W. Toan, Howell.

Macomb County—Joseph M. Croman, Mont Clemens.

Manistee County—Homer A. Ramsdell, Manistee.

Marquette, Alger Counties—A. W. Hornbogen, Marquette.

Mason County—Ephraim G. Gray, Ludington.

Mecosta County—William T. Dodge, Big Rapids.

Menominee County—Walker R. Hicks, Menominee.

Midland, Gladwin Counties—E. J. Doucher, Midland.

Monroe County—Charles T. Southworth, Monroe.

Montcalm County—A. J. Bower, Greenville,

Muskegon, Oceana Counties—George L. LeFevre, Muskegon.

Newaygo County—William H. Barnum, Fremont.

Oakland County—Edmund A. Christian, Pontiac.

Ontonagon County—Andrew L. Swinton, Ontonagon.

Osceola, Lake County—Earl Fairbanks, Luther.

Otsego, Crawford, Oscoda, Roscommon, Ogemaw Counties—Harry W. Knapp, Gaylord.

Ottawa County—A. Leenhouts, Holland.

Presque Isle County—William W. Arscott, Rogers.

Saginaw County—Matthew Kollig, Saginaw.

Schoolcraft County—Andrew Nelson, Manistique.

St. Clair County—Charles B. Stockwell, Port Huron.

St. Joseph County—David M. Kane, Sturgis.

Sanilac County—James W. Scott, Sandusky.

Shiawassee County—A. M. Hume, Owosso.

Tuscola County—Arthur L. Seeley, Mayville.

Van Buren County—Francis C. Penoyar, South Haven.

Washtenaw County—Udo J. Wile, Ann Arbor

Wayne County—Andrew P. Biddle, Detroit.

Wexford, Missaukee, Kalkaska Counties—Barlett H. McMullen, Cadillac.

PROGRAM—SPECIAL MEETING

MICHIGAN STATE MEDICAL SOCIETY, BATTLE CREEK, CALHOUN COUNTY,

MAY 10, 1917, 10 A. M.

1. Call to Order—President Biddle.
2. Invocation.
3. Object of Special Session—President Biddle.
4. Address—V. C. Vaughan, Sr., M.D.
5. Address—Governor, A. E. Sleeper.
6. Address—Hon. Woodbridge N. Ferris.
7. Address—Reuben Peterson.
8. Address—Representative Surgeon-General.
9. Report of Council—W. T. Dodge, Chairman.
10. Committees, Resolutions—General Business.

Correspondence

Ann Arbor, Mich., March 24, 1917.

Dear Doctor:

At a meeting of the Michigan State Committee for Medical Preparedness held in Ann Arbor, March 17th, in pursuance with instructions from the Advisory Committee of National Defense, work was begun to form in each county of the State having a population of 10,000 or more "a sub-committee of five or more strong men who are known to be thoroughly loyal and ready to work for the common good in national defense."

The Committee decided that the best course to pursue would be to request one physician in the different counties, personally known to the Committee to name the other members of the sub-committee, such names to be sent to the State Committee for official confirmation.

In making your selections for the sub-committee please keep in mind the following instructions your State Committee has received from the Advisory Committee of National Defense.

1. The members of the sub-committees must be strong men who are known to be thoroughly loyal and ready to work for the common good in national defense.

2. The members of the sub-committees are to work to secure a definite number of medical men from their communities to join the Medical Reserve Corps.

3. Bear in mind that the field duty Reserve Officers must enter the Army Medical Service under the age of 45.

4. It is desirable that at least one member of the local Medical Officers' Reserve Corps be named as a member of the sub-committee.

A list of the men residing in your county who have been recommended for membership in the Medical Reserve Corps by the State Committee is herewith inclosed for your guidance, together with a list of men from your county who are officers in the Medical Reserve Corps, United States Army, Inactive List, according to a list furnished your State Committee by the Surgeon General's Office.

The State Committee does not need to inform you that haste is absolutely imperative. Send your nominations to the Chairman of the Committee at the earliest possible date. Your State Committee promises that there will be no delay so far as it is concerned.

Officially your sub-committee will be known as "The Auxiliary Medical Defense Committee of ——

Yours very truly,

REUBEN PETERSON,

Chairman, State Commitee on Medical Preparedness.

Washington, March 24, 1917.

Dr. F. C. Warnshuis, Secretary State Medical Association, Grand Rapids, Mich.

My Dear Doctor Warnshuis:

We are anxious to increase the Medical Officers' Reserve Corps of the Army greatly and promptly in order that men may be trained for such duties as they may be called upon to fulfill.

In order that physicians may enter the Reserve Corps they must be examined either by an Officer of the Reserve Corps on the one hand, or by an Officer of the Medical Corps of the Army on the other hand.

It seems highly desirable that a few representative medical men from your state should enter the Reserve Corps so that examiners for that state may be officially designated by the Surgeon General of the Army. Let us urge, therefore, that the members of your State Committee, or other representative men, enter the Officers' Reserve Corps without delay. This is necessary in order to minimize the difficulties of recruiting Reserve Officers.

In the preparation for National Defense the first thing needed will be medical officers.

Physicians recommended for such service should be of the highest type. They should be free from suspicion of addiction to drugs or drink.

Medical Officers who go to field duty should by preference be under the age of forty-five.

The second thing needed will be men for the Army and Navy. Those men should be thoroughly examined physically.

That work will be done by medical officers.

Extreme care in such examinations is required in order to save delay, great inconvenience and vast sums of money.

As trained medical men will be needed the moment camps are established, it is incumbent upon the medical profession to prepare at once for the responsible duties which will devolve upon them.

Let us bespeak prompt and effective co-operation in this highly important matter.

Very sincerely years,

F. F. SIMPSON,
Chief of Medical Section.

FRANKLIN MARTIN,
Member of Advisory Commission.

Detroit, April 6, 1917.

Publisher Journal of the Michigan State Medical Society, Powers Theater Building, Grand Rapids, Mich.

Dear Sir:

McGregor Institute desires to secure the services of a young physician, or even of an older man.

We would prefer to have the doctor devote all of his time to the work of the Institute, but it might be possible to allow him one-third of his time for other interests.

Equally important with medical knowledge would be an interest in and aptitude for social service work. That is, the Institute physician should use his intimate contact with the men not only to help them in health matters, but also to aid them in solving their complex personal difficulties. A young doctor here would have a competent committee of medical men as his advisers.

Salary would depend upon whether full or two-thirds time was given.

If you can make announcement of the foregoing in your columns we shall much appreciate it.

Very truly yours,

TRACY W. M'GREGOR.

New York, March 23, 1917.

My Dear Editor:

As a news item for our valued journal will give you the following information concerning myself.

I returned March 22, 1917, steamship Espagne from Bordeaux, after an exciting passage from submarine standpoint.

Since April 18, 1916, I have been on the staff of Hospital 43 Bis. A French-American Military Base located back of the Somme front in France.

Dr. Fitch, Rochester, N. Y., late Secretary of American Orthopedic association, is surgeon and chief. We two handled it alone, 180 beds.

Our work is largely bone, joint and skin work, though we had plenty of other work, but the Service de Santi reserved us as much as possible for bone and joints.

I returned to the U. S. in order to join the U. S. Army, which I soon shall volunteer for in Detroit, although I volunteered Feb. 5 from France.

Hoping that you can utilize the essential features of this letter.

Sincerely yours,

L. C. DONNELLY, M.D.
Orthopedic Surgeon.

727 Jefferson Ave., E., Detroit.

Deaths

Dr. R. H. Baird of Howell died on March 23, at Vero, Florida where he and Mrs. Baird have spent the winter in the hope of recovery. For the past fifteen years he has enjoyed a very large practice in his vicinity but had to give up about a year ago owing to his health.

The following members of the profession of Michigan have passed away during the past month: Dr. Thomas Shaw, Ypsilanti; Dr. H. P. Martin, Ovid; Dr. Harvey L. Morris, Vassar; Dr. S. F. Chase, Caro; Dr. B. P. Scoville, Constantine, Dr. C. B. Chapin, Benton Harbor.

State News Notes

WANTED—A competent physician to locate in a thriving village of Western Michigan. For particulars address No. 20, care *Journal, M. S. M. S.*, 513 Powers Theatre Building, Grand Rapids, Mich.

ANNUAL MEETING AT CINCINNATI, MAY 9, 10 and 11, 1917.

The next annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held at Cincinnati, May 9, 10 and 11, 1917. Members of the Association and other anti-tuberculosis workers are urged now to reserve these dates. Cincinnati offers many peculiar advantages for those interested in tuberculosis. It has a strong anti-tuberculosis league, a thoroughly efficient health department, a well equipped hospital, besides open air schools, dispensaries and many other agencies doing tuberculosis work. In addition, Cincinnati has recently been selected as the city in which the National Social Unit Organization will seek to make a unique health and community demonstration during the next three years under the direction of Mr. and Mrs. Wilber C. Phillips. By next May this experiment will be well under way. Cincinnati also enjoys the distinction of being the only large city in which the United States Public Health Service has made a thorough tuberculosis survey.

The chairmen of the various sections for the annual meeting are, Dr. Roger S. Morris, Cincinnati, Clinical Section; Dr. Paul S. Woolley, Cincinnati, Pathological Section; Dr. Charles P. Emerson, Indianapolis, Advisory Council; and Frank H. Mann, New York, Sociological Section. Programs for each section will be in the hands of the respective chairmen. A preliminary announcement of the program will be published in the April Bulletin of the National Association.

The Children's Bureau has been authorized by Dr. Frederick R. Green, Secretary of the Council on Health and Public Instruction, American Medical Association, to call your attention to the following letter:

"To the Presidents of County Societies:

"Encouraged by the success of their efforts last year, the Children's Bureau of the U. S. Department of Labor and the General Federation of Women's Clubs are planning to hold a second annual Baby Week throughout the country on May 1 to 6, 1917. The object of this campaign is to call attention to the importance of better methods for caring for babies, the necessity of protecting them against disease and the value and importance to our country and to future generations of these infant lives. The interest aroused by the observation of Baby Week last year as well as the growing attention given to child welfare and the reduction of infant mortality assures a successful celebration of Baby Week this year.

The Children's Bureau and Women's Club especially desire the co-operation and assistance of the organized medical profession. The work which they are doing is in close harmony with the work of the Council on Health and Public Instruction and with the principles and objects of the American Medical Association and its constituent state and component county societies. The active co-operation of all county societies is, therefore, earnestly requested. It is hoped that your county society at the first opportunity will take up this matter and will arrange to co-operate with the women's clubs and other organizations in your county and to assist to the extent of your ability in carrying out plans for Baby Week and in interesting the public in all measures for the reduction of infant mortality. If each of the two thousand county societies will do its part in making Baby Week a success in its own territory, the cause of public health will be materially advanced.

If you are interested in the campaign and will send a request for the circular and bulletins on Baby Week Campaigns issued by the Children's Bureau these publications will be sent to you.

Hoping that you may see fit to take up active work in this direction, I am

Yours very truly,

FREDERICK R. GREEN,

Secretary, Council on Health and Public Instruction, American Medical Association.

The annual meeting of Alienists and Neurologists will be held July 9th to Thursday July 12th, 1917, in the Red Room, LaSalle Hotel, Chicago, under the auspices of the Chicago Medical Society. Dr. George A. Zeller will act as Chairman. The program will be mailed June 28th, with abstract of each paper. Contributors to the program are solicited. This is a society without a membership fee.

Address, Secretary A. and N., Room 1218, 30 No. Michigan Ave., Chicago.

Dr. W. T. Dodge, Big Rapids; Dr. C. B. Burr, Flint; Dr. G. L. Le Fevre, Muskegon, and Dr. F. C. Warnshuis, Grand Rapids, composed a party that left Grand Rapids on March 31st and spent a week at the Clinics of Rochester and Minneapolis, Minn.

The Detroit Base Hospital is practically equipped and ready to respond when called. The Grand Rapids Base Hospital will be ready in thirty days. These two units will be able to care for 1,000 patients.

Your loyalty to your Country and your Flag makes it imperative that you should attend the special meeting on May 10th. May there by no "slackers" in the Michigan profession.

Dr. R. B. Smith, formerly of Crystal, has located in Alma where he will limit his practice to the eye, ear, nose and throat.

For the fifth time Dr. F. W. Sassaman has been elected health officer of Charlotte.

Dr. J. E. Peltier of Thompsonville has located in Newaygo.

Dr. A. K. Bennett has been elected health officer of Marquette.

Dr. R. Miller of Harbor Springs suffered a stroke of apoplexy March 30th.

Dr. R. L. Dixon, of Wahjamega, underwent an appendectomy April 3.

Dr. E. G. McConnell, of Newaygo, has moved to Wellston.

The Northern-Tri State Medical Association held its semi-annual meeting in Battle Creek on April 10.

DETROIT COLLEGE OF MEDICINE AND SURGERY—1917 ALUMNI CLINICS.

Saturday, May 26th, St. Mary's Hospital.—9-10 A. M. Dr. John Lee—Medicine; Dr. Theodore H. Smith, Urology; Dr. W. J. Seymour—Surgery; 10-11 A. M. Dr. W. M. Donald—Medicine; Dr. Eugene Smith—Ophthalmology; Dr. W. J. Seymour—Surgery; 11-1 P. M. Dr. W. E. Lower, Cleveland—Urology; 2-3 P. M. Children's Free Hospital—Dr. Frederick Burke—Pediatrics; Dr. Ray Connor—Ophthalmology; Dr. Daniel La Ferte—Orthopedics; Drs. B. R. Shurly and W. A. Deforet—Rhinology; 3-4 P. M. Dr. Daniel LaFerte—Orthopedics; Dr. B. R. Shurly—Rhinology; 4-5 P. M. Dr. Alfred LaFerte—Orthopedics.

Monday, May 28th Harper Hospital.—9-10 A. M. Dr. C. W. Hitchcock in charge—Amphitheatre lecture, ward lecture; 10-11 A. M. Dr. C. G. Jennings in charge—Amphitheatre lecture, ward clinic, ward demonstration; 11-1 P. M. Dr. C. G. Jennings in charge—Dr. Carl D. Camp, University of Michigan—Cerebrospinal Syphilis; 2-3 P. M. Grace Hospital: Dr. J. B. Kennedy,—Surgery; Dr. F. C. Kidner, Orthopedics; Dr. L. F. C. Wendt.—Medicine; 3-4 P. M. Dr. Charles S. Kennedy—Diagnostic Surgery; Dr. R. J. Palmer—Diagnostic Surgery; Dr. D. J. Levy—Pediatrics; 4-5 P. M. Dr. R. S. Taylor—Dermatology; Dr. George H. Palmerlee—Military Surgery; 8 P. M. Wayne County Medical Society.

Tuesday, May 29th, Harper Hospital.—9-10 A. M. Dr. P. F. Morse in charge—Amphitheatre lecture; 10-11 A. M. Dr. J. H. Carstens in charge—Amphitheatre lecture, ward clinic; 11-1 P. M. Dr. P. M. Hickey in charge—Dr. L. H. Cole, New York City—Roentgenology.

Wednesday, May 30th, St. Mary's Hospital.—9-10 A. M. Dr. F. B. Walker—Surgery; Dr. Howard Coll—Gynecology; Dr. H. A. Reye—Neurology; 10-11 A. M. Dr. E. W. Mooney—Medicine; Dr. F. B. Walker—Surgery; Dr. R. W. Gellman—Ophthalology; 2-3 P. M. Children's Free Hospital—Dr. C. D. Brooks—Surgery; Dr. B. R. Hoobler—Pediatrics; 3-4 P. M. Dr. Grant McDonald—Pediatrics; 8 P. M. Class Reunions. 1872-1877-1882-1887-1892-1897-1902-1907-1912.

Thursday, May 31st, Harper Hospital.—9-10 A. M. Dr. H. R. Varney in charge—Amphitheatre lecture, ward clinic; 10-11 A. M. Dr. E. W. Haass in charge—Amphitheatre lecture, ward clinic, ward demonstration; 11-1 P. M. Dr. E. W. Haass in charge—Dr. Earl S. Bullock, Silver City, N. M.—Tuberculosis; 2 P. M. Laboratory Demonstration—Parke, Davis and Co.; 3:30 P. M. Boat ride, Steamer Tashmoo, Annual meeting and election of officers on the boat. Guests at lunch of Drs. R. E. Mercer and Frank B. Walker.

Friday, June 1, St. Mary's Hospital.—9-10 A. M. Dr. Neal Hoskins—Medicine; Dr. R. C. Andries—Surgery; Dr. R. G. Shaw—Rhinology; 10-11 A. M. Dr. A. P. Biddle—Dermatology; Dr. J. H. Andries—Surgery; Dr. Wm. E. Keane—Urology; 11-1 P. M. Dr. Dean Lewis, Chicago—Surgery.

Tuesday, May 22nd, Harper Hospital, 9-10 A. M. Dr. Ballin in charge, ward demonstration and operative clinic; 10-11 A. M. Amphitheatre lecture; 11-1 P. M. Dr. L. L. McArthur, Chicago—Surgery; 2-3 P. M. Dr. G. E. Frothingham in charge—Amphitheatre lecture, ward clinic, operative clinic; 3-4 P. M. Dr. Don M. Campbell in charge—Amphitheatre lecture, ward clinic, operative clinic; 4-5 P. M. Dr. W. E. Blodgett in charge—Amphitheatre lecture, ward clinic, operative clinic.

Wednesday, May 23rd, St. Mary's Hospital.—9-10 A. M. Dr. L. L. Zimmer—Gynecology; Dr. F. W. Robbins, Urology; 10-11 A. M. Dr. A. W. Ives—Psychiatry; Dr. T. A. McGraw—Medicine; 11-1 P. M. Richard L. Sutton, Kansas City—Dermatology; 2-4 P. M. Detroit Sanitarium, Drs. B. R. Shurly and H. M. Rich.

Thursday, May 24th, Providence Hospital.—

9-10 A. M. Dr. W. E. Welz—Obstetrics; Dr. R. E. Mercer and Dr. Wm. Woodworth—Laryngology; 10-11 A. M. Dr. Robt. Beattie—Ophthalmology; Dr. F. L. F. Stephenson—Medicine; Dr. R. E. Mercer and Dr. Wm. Woodworth—Rhinology; 2-3 P. M. Dr. David R. Clark—Neurology; Dr. James E. Davis—Surgery; 3-4 P. M. Drs. I. L. Polozker, Robt. Hull and White—Pediatrics; 4-5 P. M. Dr. G. Van Amber Brown, Dr. F. W. McNamara—Diagnostic Surgery.

Friday, May 25th, Harper Hospital.—9-10 A. M. Dr. L. J. Hirschman in charge—Amphitheatre lecture, ward clinic, operative clinic; 10-11 A. M. Dr. Angus McLean in charge—Amphitheatre lecture, ward clinic, operative clinic; 11-1 P. M. Dr. Angus McLean—Surgery; 2-5 P. M. Herman Kiefer Hospital—Drs. Guy L. Kiefer and George Sewell—Contagious Diseases; 8 P. M. Alumni Association Smoker and Vaudeville—Wayne County Medical Society Building—Luncheon—Guests of Dr. Herbert W. Hewitt; 2-3 P. M. Grace Hospital.—Dr. Herbert W. Hewitt—Surgery; Dr. John T. Watkins—Medicine; 3-4 P. M. Dr. W. L. Hartman—Urology; Dr. Carl R. Meloy—Laboratory demonstration; Dr. R. H. Stevens—Dermatology; 4-5 P. M. Dr. Harold Wilson—Laryngology; Dr. Geo. P. Myers—Surgery.

Saturday, June 2, Providence Hospital.—9-10 A. M. Dr. R. A. C. Wallenberg—Dermatology; Dr. A. S. Dewitt—Medicine; 10-11 A. M. Dr. H. Wellington Yates, Dr. E. A. Pillon—Gynecology; Dr. C. Hollister Judd—Obstetrics; Dr. Wadsworth Warren—Rhinology; 11-1 P. M. Dr. Willard Stone, Toledo, O.—Medicine; 2-3 P. M. Dr. E. J. Panzner—Surgery; Dr. J. H. Dempster—Ophthalmology; 3-4 P. M. Dr. Geo. C. Chene—Roentgenology; Drs. F. M. McDonald, Nicholas Galdonyi—Obstetrics; 8 P. M. Graduation Exercises.

County Society News

MINUTES OF SPECIAL MEETING MICHIGAN STATE BOARD OF HEALTH, MARCH 16, 1917.

Meeting called to order at 10 a. m., by the President.

Roll call showed the following members present:

Dr. V. C. Vaughan, President.

Vice Presidents, Dr. E. T. Abrams, Dr. A. P. Biddle and Mr. W. D. Farley.

Dr. John L. Burkart, Secretary.

The Secretary then introduced the recently appointed members of the Board, Drs. Guy L. Kiefer of Detroit and Wm. F. English of Saginaw, as having been appointed by the Governor, confirmed by the senate and qualified under the State law as members of the Michigan State Board of Health and eligible to voice and vote thereon.

The President in some very fitting remarks, welcomed the two members to the Board and expressed a sincere desire for entire harmony in all the future actions of the board.

The Secretary, Dr. Burkart, then announced that the unexpired term of office of Dr. Robt. L. Dixon, which he was completing, would terminate March 29, 1917, and inasmuch as he was not a candidate for reappointment, it would be necessary for the Board, at this time, to select his successor as provided by Act 67, P. A. 1915, wherein the recommendation of the State Board of Health was made a prerequisite for appointment by the Governor. The Secretary then submitted a resume of the work accomplished during his term of office and read a communication from the Secretary of the Conference of State and Provincial Boards of Health of N. America with the Surgeon General, U. S. Public Health Service, and thanked the members of the Board for the co-operation given and the confidence reposed in him.

Upon motion of Dr. E. T. Abrams, supported by Dr. Biddle, a committee was appointed to draft suitable resolutions, thanking Dr. Burkart for the faithful and capable service that he has performed during his tenure of office and, pursuant to this resolution, the chair appointed Drs. Abrams, Biddle and Mr. Farley to draft suitable resolutions to be presented to Dr. Burkart. The President then took occasion to commend the work of the present Secretary and expressed sincere regret at the proposed termination of his services because of a better position and assured the Secretary that the best wishes of the State Board of Health for success would accompany the Secretary in his new position.

The following resolution, presented by Dr. Abrams and supported by Mr. Farley, was adopted:

"In view of the fact that Dr. John L. Burkart, is not a candidate for reappointment as Secretary of the State Board of Health of Michigan and that certain members of the Board favor the appointment of Dr. DeKleine, while other members favor the appointment of Dr. R. M. Olin, be it resolved, That the Governor be informed that the appointment of either of these men will be satisfactory to the Board and that we do hereby recommend to him the appointment of either." The Secretary refused to vote upon the motion and was sustained by the chair.

Moved by Dr. Abrams, supported by Mr. Farley:

"That a copy of this resolution be transmitted immediately by the President of the Board to Governor Sleeper, for his action." Carried.

In pursuance with the foregoing resolution, the following letter was prepared by the Secretary and delivered to the President of the Board, for presentation to the Governor:

"To His Excellency,
The Honorable Albert E. Sleeper,
Governor of Michigan.

Sir:

I have the honor to adivise you that, at a special meeting of the State Board of Health, held in the office of the Secretary, at Lansing, Michigan, Friday, March 16, the following resolution was offered by Dr. E. T. Abrams, supported by Mr. Farley:

'In view of the fact that Dr. John L. Burkart is not a candidate for reappointment and that certain members of the Board favor the ap-

pointment of Dr. DeKleine, while other members favor the appointment of Dr. R. M. Olin. Be it Resolved: That the Governor be informed that the appointment of either of these men will be satisfactory to the Board and that we do hereby recommend to him the appointment of either.'

Unanimously adopted, the Secretary, Dr. Burkart, not voting.

Very respectfully yours,

(Sig.) V. C. VAUGHAN,
President, Michigan State Board of Health.
Official. JOHN L. BURKHART, Secretary.

CHIPPEWA COUNTY.

A regular meeting of the Chippewa County Medical Society was held at the Park Hotel, this city, on Tuesday evening, April 3rd.

Vice-President R. E. Stocker in the chair; Minutes of the meeting held March 6th, were read and approved.

Under "Clinical Cases" Dr. O. H. Cox, U. S. P. H. S. reported a case of disease of the myocardium which had been diagnosed as tubercular trouble. Wassermann reaction was positive, and the patient is showing marked improvement under treatment for syphilis.

Dr. Winslow reported a case of acute appendicitis in a patient ten years old, in which an abscess had formed, accompanied with local peritonitis and severe pain. Free drainage was obtained and the patient left the hospital in four weeks. Symptoms of acute appendicitis reoccurred two weeks later at which time the appendix was removed, fibrous adhesions broken up, and kinks liberated.

Dr. Robert Bennie, President of the Upper Peninsula Medical Society, read a paper on "The Gastro-intestinal Tract as a Source of Infection" which was greatly enjoyed and fully discussed by the members.

It was moved and carried that the members of the society hereby signify their willingness to donate a reasonable amount of their time, gratuitously, to the inspection of school children of the city, if so desired by the officers of the School Board.

On motion, the meeting was adjourned, and the members were the guests of A. E. Marriott, Manager of the Park Hotel, to a complimentary dinner.

R. C. WINSLOW, Secretary.

KENT COUNTY.

Since the last report of the Kent County Medical Society, four meetings have been held. On the evening of January 24th, Dr. Eugene Boise gave "Some Suggestions as to the Treatment of Pneumonia," and Dr. Frederick C. Kidner of Detroit read a paper on "Infantile Paralysis." On Feb. 14th, Dr. J. E. Meengs gave a paper on "Twenty Cases of Carcinoma of the Stomach," using a lantern to illustrate his remarks. Dr. Richard R. Smith then spoke on "First Principles in the Diagnosis and Treatment of the Pelvic Disorders of Women." On the evening of Feb. 28th, a complimentary dfinner was given to Dr. Andrew P. Biddle at the Colonial Room of the Pantlind hotel, with 70 guests present. Following this dinner, Dr. Biddle gave an excellent dermatological clinic. This proved a great success: a large variety of interesting cases some of extreme rarity, appearing before the society. Great credit is due Dr. Hooker for the work involved in providing such a clinic for our state President. A vote of thanks was tendered Dr. Biddle at the close of the meeting. Dr. J. B. Jackson also gave a paper on "Disorders of the Esophagus," illustrated with the lantern. At the meeting of March 14th, Dr. A. A. McNabb gave a "Report of two cases of Paralysis of the Circumflex Nerve Following Injury to the Shoulder Joint." This elicited an interesting discussion in which many participated. Dr. Wm. Fuller, who was to have read a paper on "The Physical Origin of the Faculties of the Mind," was unable to appear on account of illness.

The annual banquet of the Kent County Medical Society, held at the Hotel Pantlind on the evening of Feb. 19th was a huge success. Mr. Francis D. Campau, an attorney, read a paper on "Health Insurance." This and a historical study of the Grand Rapids hospitals, illustrated with the lantern and handled extremely well by "Dick" Smith, disposed of the serious part of the program. "Southie" Southwick, just back from the border told how to shoot, skin and stew a Mexican in the most delectable manner. Ferris N. Smith gave a case report which was "some" report. Starting with a pre-natal clinic and a Cesarean section, the poor patient acquired every disease known to science and was attended by every physician in Kent County—their pictures being thrown on the screen as various portions of suffering anatomy were removed from the patient. The agony ended with a premature death at the age of 96. Dr. "Hank" Pyle was last, but not least, on the program. His sword was whetted to a razor edge and many a slice of bacon did he cut. If at any future time we want satire combined with high class oratory, we shall know where to go. It gave a fitting climax to a "climatic" evening. Dr. Reuben Peterson of Ann Arbor handled the reins well and contributed greatly to the success of the party.

At a recent meeting of the Kent County Medical Society, the following resolutions were adopted. It was voted that a copy be sent to all the members of our society.

Resolved:

A—That it is the opinion of the Kent County Medical Society that any article in the public press commenting on the skill, knowledge or professional accomplishments of one or more of its members is unethical and shall be treated according to existing laws for unethical conduct.

(1) That this rule apply to such article or articles as may either be compiled by a member or members, or result from an interview with a press representative, dealing with

(a) Surgical operations of any sort.

(b) Medical treatments or the technic of medical and surgical procedures as advocated or practiced by said individual.

(c) The publication of any information regarding a patient or the patient's relatives which violates the patient's confidence or reflects upon the moral or physical condition of the patient.

B—That the Society does not believe that the publication of any practitioner's name, excepting the coroners' or court witnesses', in connection with any accident or police case, is ethical, nor is it of proper "news interest" to the community.

C—That the only exceptions to this rule be—

The publication of medical articles in lay journals which meet the approval of the censorship committee or the Society at large.

Press Censorship Committee.

Dr. G. McBride
Dr. T. D. Gordon
Dr. Ferris N. Smith, Chairman.

FRANK C. KINSEY, Secretary.

ST. CLAIR COUNTY

The regular bimonthly meeting of the St. Clair Medical Society was held at the Harrington Hotel, Thursday evening, March 29, 1917.

Drs. Wm. Donald of Detroit and Richard Smith of Grand Rapids were the guests of the evening.

After dinner Dr. Chester introduced Dr. Donald who gave a very interesting paper on, "Alcohol, as a Food—Drink—Medicine." Dr. De Gurse opened the discussion followed by other members of the Society.

The president next introduced Dr. Smith who gave a lantern-slide demonstration on "Goiter," which was appreciated by all.

Following is a resolution introduced by Dr. Smith, of St. Clair, Mich.

The physicians of St. Clair County, in convention assembled, believing that all true men should work for the eradication of disease and the upbuilding of a cleaner and better humanity, hereby

Resolve, That we most heartily endorse the splendid work done by Dr. Wm. De Kleine and his able assistants in the tuberculosis survey, as being necessary for successful war upon the scourge of the human race.

Resolved, That we not only set the seal of our approval upon the work already done, but we demand of our representatives and senator in the Legislature, that they use every endeavor to have the appropriation of $100,000 continued so that there may be no halting the work of exterminating this plague.

Resolved, That we would regard a failure to continue this appropriation as an injury to humanity and a discredit to our state, as it would indicate that, Michigan having begun the good work, had through false economy, gone backward and abandoned that protection of its citizens from an unnecessary disease, which it should be the duty of the state to furnish.

W. W. RYERSON, Secretary.

WAYNE COUNTY.

At a general meeting of the Society, held March 19, 1917, a motion was passed authorizing the President to appoint a committee of twenty to be empowered to act with the Board of Health in the eradication of the present scarlet fever epidemic.

Dr. MacMillan (President) appointed the following committee:

Doctors Charles G. Jennings, F. W. Haass, Chas. Oakman, J. B. Kennedy, Harold Wilson, George McKean, Fred Organ, Wm. M. Donald, James E. Burgess, Chas. Kuhn, Mary C. Haskins, George Sipe, G. S. Field, Edward Mooney, Philip Froude, I. L. Polozker, C. H. Stiles, Neil Hoskins, F. E. F. Stephenson, James Cleland, Jr., H. R. Carstens.

Another motion was passed authorizing the President to appoint a committee of five to appear before the legislature in regard to proposed changes in the Board of Health. This mot on also incorporated the following resolution:

"Whereas, It has come to the notice of the members of the Wayne County Medical Society, an organization composed of nearly nine hundred physicians living and practicing in Detroit, that a bill has been introduced from unknown sources to abolish the Board of Health and to substitute in its place one-man control in the hands of a commissioner.

"And Whereas, No opportunity whatever has been given to the people of Detroit, and especially to the medical profession, to discuss the merits of this bill.

"Be It Resolved, That the Wayne County Medical Society earnestly and vigorously protest against the passage of any bill of such vital importance to Detroit until after time for the fullest discussion and hearing before the proper committees has been provided for,

"Be It Further Resolved, That a copy of this resolution be forwarded to the proper committees of both Senate and House of Representatives, before whom these bills would come, and also to the Senators and Representatives from Wayne County."

The following resolution endorsing the candidacy of Dr. Andrew P. Biddle for School Inspector was also passed:

"Believing as we do, that the services of a physician trained in public health work and experience in public administrative work would be of inestimable value to the New School Board in safeguarding the health of the pupils and the teachers of the public schools and in teaching personal hygiene, and thus safeguarding the health of the community, and knowing that Dr. Andrew P. Biddle, by years of practice, by his services as a member of the State Board of Health and by training, is well fitted to discharge any duty which may devolve upon him,

"We, Members of the Wayne County Medical Society, earnestly endorse his candidacy as School Inspector for the two year term.

"The Secretary of the Society is hereby directed to transmit these views to the press of the city with the request that they be given publication."

HENRY R. CARSTENS, Secretary.

Miscellany

PROPAGANDA FOR REFORM.

Effect of Opium Alkaloids on the Ureters.—According to D. I. Macht morphin and the opium alkaloids having a similar constitution increase the contraction and produce a greater tonicity of the ureter, whereas papaverin and the opium alkaloids constituted similarly produce a slowing or total inhibition of the contraction and relaxation of the tonus. In opium and pantopon, which contains the total alkaloids of opium, the effect of the morphin group preponderates. Ureteral colic is due to spasmodic contractions of the ureter caused by the irritating calculus and hence the use of papaverin or opium is more rational than that of morphin. Furthermore, the slighter toxicity of papaverin, its tonus lowering power and its local analgesic properties suggest its local application in spasmodic conditions of the ureter (*Jour. A. M. A.*, March 3, 1917, p. 719.)

The Willard Pyorrhea Treatment.—After defrauding the public of amounts estimated by the federal investigators at $75,000 a year by means of a take cure for pyorrhea, F. W. Willard, M.D., D.D.S., has been denied the use of the United States mails. The business of the Willard concern, apparently owned by Oren Oneal, consisted of a mail-order plan of a so-called home treatment for pyorrhea or Riggs' disease (*Jour. A.M.A.*, Feb. 10, 1917, p. 477).

Dating of Biologic Products.—For the protection of the consumer as well as the manufacturer, the Council on Pharmacy and Chemistry has adopted a rule requiring that serums and vaccines and similar products to be accepted for New and Nonofficial Remedies must bear on each package the date of its manufacture in addition to the date required by federal law. The practice now followed by manufacturers of placing on the containers of biologic products the date beyond which these agents are not to be regarded as dependable (though in accordance with the federal law) has not been satisfactory. Except for diphtheria and tetanus antitoxin, in general there are no methods for determining the potency of serums and vaccines. At the present time, for the same material, one manufacturer will fix an expiration date of four months, others one year or even eighteen months. Obviously this lack of uniformity is unfair to the manufacturer who endeavors to supply a product as fresh as is commercially practicable and it also may lead the physician to form a false opinion regarding the potency of certain biologic products. The new rule of the Council will enable the physician to know the age of a given product when it reaches him and will permit him to judge whether or not it has been kept unduly long. Moreover, it will prove not only helpful to the conscientious manufacturer and the physician but will also safeguard the patient (*Jour. A.M.A.*, March 3, 1917, p. 728).

Succus Cineraria Maritima.—In agreement with the report of the Council on Pharmacy and Chemistry holding the claims made for Succus Cineraria Maritima (Walker) unfounded, the federal government charged that the claim that by dropping its preparation into the eye cataract may be cured was false and fraudulent. In February, 1916 the Walker Pharmacal Company pleaded guilty. Since the government's prosecution, brought under the Food and Drugs Act, effects only the claims made on the trade-package of a preparation, the admittedly false claims were still made in circular letters sent to physicians as late as October, 1916 (*Jour. A.M.A.*, March 17, 1917, p. 864).

Rheume Olum.—The Council on Pharmacy and Chemistry reports that Rheume Olum (The Rheumeolum Chemical Co., Seattle, Wash.) is said to be composed of camphor 7 per cent., chloral hydrate 7 per cent., menthol 2⅛ per cent., methyl salicylate 25 per cent., oil cajuput 2½ per cent., oleoresin capsicum, lanolin, white wax, "qs." The Council found Rheume Olum unacceptable for New and Nonofficial Remedies because the amount of the potent oleoresin of capsicum was not declared, because unwarranted therapeutic claims were made, because the name was nondescriptive of its composition and therapeutically suggestive and because the fixed formula was considered irrational (*Jour. A.M.A.*, March 17, 1917, p. 865).

The Sargol Case.—The exploiters of Sargol, the get-fat-quick nostrum, were found guilty of fraud and were fined $30,000 after promising that the business would be discontinued. Sargol was made by Parke, Davis & Co. at a price of 53 cents to 78 cents per thousand tablets. Sargol was stated to contain extract saw palmetto, calcium hypophosphite, sodium hypophosphite, potassium hypophosphite, lecithin, extract nux vomica. The trial is said to have cost the United States over $100,000. Although the business was palpably fraudulent, although the claims made for the nostrum were palpably false, the defendants were able to employ physicians to go on the stand and swear that Sargol was a "flesh builder" and "bust developer" (*Jour. A.M.A.*, March 24, 1917, p. 927).